JPRS 75911

19 June 1980

East Europe Report

ECONOMIC AND INDUSTRIAL AFFAIRS

No. 2018

FBIS FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available from Bell & Howell, Old Mansfield Road, Wooster, Ohio 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

JPRS 75911

19 June 1980

EAST EUROPE REPORT

ECONOMIC AND INDUSTRIAL AFFAIRS

No. 2018

CONTENTS

INTERNATIONAL AFFAIRS

'POLITYKA' Discusses Hungarian Economic Reform
(Szymon Jakubowicz; POLITYKA, 26 Apr 80)................. 1

Hungarian-Czechoslovak Plan Coordination Protocol Signed
(NEPSZABADSAG, 14 May 80)................................ 10

Economic Development of Socialist States in CEMA
(V. Balasa, I. Popescu; REVISTA ECONOMICA,
9 May 80).. 12

GDR, Soviet Aviation Aids to Agriculture Described
(Various sources, various dates)......................... 19

Interview With Agrarflug Director, Willi Gorzel
Interview
Activities of Agrarflug Enterprises
Aid From Soviet Planes

GDR-USSR Cooperation Brings Higher Plant Yields
(Georg Vogel Interview; NEUES DEUTSCHLAND, 7 May 80).... 25

CZECHOSLOVAKIA

Financial Policy Promotes Economies, Effectiveness
(Frantisek Pavelka; HOSPODARSKE NOVINY, 16 May 80)...... 28

GERMAN DEMOCRATIC REPUBLIC

Spring Afforestation Work Nears Completion
(NEUES DEUTSCHLAND, 22 May 80)........................ 32

Intensification of Fodder Production Planned
(PRESSE-INFORMATIONEN, 9 May 80)...................... 33

POLAND

Commentary on Nonfulfillment of Planned Tasks Noted
(Z. Kom.; SLOWO POWSZECHNE, 2 Jun 80)................ 36

Meeting on Foreign Trade Development Noted
(Michal Rusinski; HANDEL ZAGRANICZNY, No 1, 1980)... 38

Coal Transportation Service Problems Described
(Jerzy Wegierski; PRZEGLAD KOMUNIKACYJNY, Feb 80)... 47

ROMANIA

Automation, Electronization of Production Processes
(Barbu Gh. Petrescu; REVISTA ECONOMICA, 9 May 80)... 54

Oil, Gas Explorations in Black Sea
(Cecil Georgescu; STIINTA SI TEHNICA, Apr 80)....... 60

Decree on Saving Electricity, Heat, Gas Amended, Republished
(BULETINUL OFICIAL, 8 Apr 80)........................ 64

New Procedure for Making Concrete Discussed
(Valeria Ichim; STIINTA SI TEHNICA, Apr 80)......... 74

Need To Increase Profitability in Agricultural Units
(Oprea Parpala; REVISTA ECONOMICA, 23 May 80)....... 80

'POLITYKA' DISCUSSES HUNGARIAN ECONOMIC REFORM

Warsaw POLITYKA in Polish No 17, 26 Apr 80 pp 1, 13

[Article by Szymon Jakubowicz: "The Hungarian Experience"]

[Text] The road of Hungarian reform is particularly difficult and potholed. The adoption of new principles of economic management took place in the course of heated discussion and debate. Subsequently the strong pressure of world inflation on the Hungarian economy, which is particularly dependent on the world economy, intensified problems connected with the reform.

As we know, the reform was carried out thanks to the resolve of the political leaders of the Hungarian People's Republic. The political leadership has also on numerous occasions given positive appraisals of its effects. Of particular importance is ratification of the principles of the reform by the 12th Congress of the Hungarian Socialist Workers Party, expressed both in the main congress points and in its resolutions confirming the decisions to effect changes in the system of economic control made at the end of 1979.

"One can easily imagine," wrote J. Katona in an article discussing the directives to the congress in the 11/79 issue of PARTÉLET, replying to attacks by those who associate economic difficulties with the reform, "the difficulties with which an excessively centralized economy would have to struggle in adapting to suddenly altered external conditions (22-23 percent less advantageous terms of trade than in 1973 -- S. J.), an economy which takes little account of commodity-money relations and various interests, since the present, more flexibly controlled economic mechanism, which utilizes the market in its own interest, does this with delay and more slowly than one would wish."

Regulations went into effect in January of this year which -- especially in the area of the price system -- advanced the cause of reform. They represent a significant step on the road toward continuous improvement of the principles of the reform of 1968 or improvement of the new, not the old system. Stated more precisely, the principles intended from the very outset in the provisions of the reform, which have been reported on numerous occasions in this periodical, are being incorporated more consistently. It has also always been emphasized that this process is not taking place without problems. Here is the basic problem: how is it possible to reconcile stability of conditions of management, without which enterprises cannot efficiently operate, with the necessary flexibility of determination by the central authorities of the parameters of their cost effectiveness analysis in relation to a changing environment?

In Hungary there has been established the view that this conflict can be resolved by determining and communicating to enterprises in advance the relatively stable elements of the system as well as its variable elements. The former group includes those which can be designated qualitative.

They also encompass such important principles as basic regulations on pricing, system of taxing profit and forming various funds, methods of regulating wages and compensation, principles of granting credit, etc. As is indicated by the Hungarian experience, the duration of such elements is 4-5 years. Their most recent change occurred in 1976.

The demand of flexibility is on the other hand met by quantitative elements of the system, that is, prices, currency exchange rates, conditions of granting credit, interest rate, etc.

Thus in Hungary they are aiming, among other things, at breaking with the tradition which enables enterprises to prosper without a care in the world, when the economy as a whole is in serious shape due to, for example, a considerable worsening of conditions of exchange of goods with other countries. We should of course emphasize that it became possible to demand that enterprises assume the burden of efficient management under any and all conditions only after granting them autonomy.

Catching up With Competitors

A question in the nature of a complaint came up on "Forum", Hungary's most popular television program: "As a result of the government lowering the dollar exchange rate, our enterprise was unable to make payments on the basis of work force participation in profits above and beyond fulfillment of the export plan target." These words illustrate the traditional approach to economic management activity which after 12 years of reform has probably survived at many enterprises -- "we" are from plan fulfillment, while "you" protect us from all unexpected surprises. This point of view is in glaring conflict with the logic of the new system but, we must admit, it is justified by the practice of excessive protection of enterprises applied prior to 1976. That year the first step toward overcoming old habits was taken in a certain sense. Chiefly with the aid of the tax system and a vigorous currency policy, enterprises were made aware that the Hungarian economy was in a very difficult situation as a result of a significant worsening of goods exchange relations with other countries. This was essentially the basis for the question stated on "Forum."

The idea of course is not to shift over to the enterprises the burden of poor market conditions, in this manner getting rid of problems and responsibilities. This would be a rather uniquely defined decentralization. The essential point is an endeavor to achieve final rejection of extensive methods of management and transformation of all enterprises into economically efficient units capable of competing in foreign markets.

From the statements made by leaders of Hungarian economic affairs one notes satisfaction that in 1979, in spite of a further (by 2 percentage points) worsening of terms of trade, they were able, due to application of the principles of reform and an appropriate economic policy, to initiate the process of restoring equilibrium to the trade balance. They acknowledge at the same time, however, that improvement is based to a greater degree on restriction of domestic consumption than increased efficiency. But could it be otherwise, since prices -- the primary foundation of the new economic management mechanism -- have not performed any of their basic economic functions well. They have failed to inform producers, consumers, or economic decision-makers on the true state of the economy, they have failed to stimulate competition, they have not compelled efficient performance, and they have not determined the level of enterprise income.

In Hungary a portion of enterprise income is dependent on efficiency of enterprise management. This efficiency is measured with the aid of profit. Is this measure a good one, however, when the price is not appropriate? The Hungarian financial system could not help but contain numerous doubtful points in this matter, as is attested by the complicated system of subsidies, deductions and allowances which "corrected" the operation of prices. As a result part of the surplus would be taken from certain enterprises -- frequently well-managed enterprises -- while additional funds would be given to others, frequently poorly managed and, as a result, operating at a loss. In time such chaos was created that any idea regarding the actual situation at enterprises was lost. Each enterprise was in a "specific" situation, and therefore it was necessary to apply "specific" implements to each, which in the final analysis led to the gradual obliteration of differences between the old directive system and the new parametric system, for what is an individualized parameter if not a directive? Universality of application, or normatywnosc [standardization], as Hungary defines it, is the essence of a parametric system.

The claim that there have been no changes in the price system in Hungary since 1968 is untrue. This system has become more flexible, partly as a result of limiting the direct regulating role of the state. This has affected throughout a significant portion of the economy functioning of free prices negotiated between supplier and customer.

Positive changes in the system, however, could not offset the fact, for example, of disparity between domestic and world prices and the disparity between retail and production prices (a category which approximates our previous factory prices).

At the outset of the reform there was talk of linking domestic prices to world prices. However, adopting domestic costs and cost relations as a basis for pricing gave the latter an autarkic character. No temporary "reforms" could correct the situation, while the price explosion which ushered in 1973 on world markets caused a total rupture of ties.

Perhaps this rupture could have functioned -- as certain Hungarian economists proposed -- as a barrier against world inflation. They forget, however, that it is impossible to place such barriers when one half of national income is generated on the basis of foreign trade, developed not only with socialist nations.

Following a long period of preparatory work, running up to 3 years, and after heated debate, the following was decided: beginning in 1980, over a period of 4-5 years, a price system was to be formed in which production prices and retail prices in Hungary would continuously remain (and not only at a specified moment) in a close link with and dependence on world prices. This means that variability of prices is grounded in the very principles of their establishment.

For practical purposes production prices this year on the majority of manufactured goods will be free prices linked to world prices. Prices on raw materials, basic materials and co-produced goods produced in Hungary will be established through comparison with world prices, and in this manner Hungarian enterprises will begin operating under conditions approximating the conditions of their foreign competitors.

Who Will Lose, Who Will Gain?

Of greatest importance, however, will be establishment of prices in that sphere of manufacturing and processing which has contact with world trade (about 70 percent of gross industrial output). Even if 5 percent of this output is to be exported, production prices are equalized with export prices. Only in the case of energy media, which will have government prices, as well as agricultural products, food-processing industry products, as well as goods which are not exported, will prices be established on the basis of previous methods, that is, on the basis of domestic costs.

The new price system is beneficial for well-operating enterprises. It represents a threat, however, to weak enterprises, which are vulnerable in cases of increase in prices on raw materials and supplies as well as price decreases on finished goods. What happens then? The new regulations create the possibility for such enterprises to be given assistnace by the state to regain efficiency, but at the same time they specify a fairly brief grace period (4-5 years). After this, if an enterprise is unable to correct its difficulties, clearing-up procedures ensue, providing for all measures up to and including liquidation. A price reserve fund is also established at all enterprises, the purpose of which is to alleviate the effects of price changes occurring in world markets.

In the area of enterprise income the principle according to which their "life" depends on profit has remained unchanged. In the new situation, however, it becomes a more objective measuring stick of efficiency, for it rests on an international base. Nor has there been a change in the principles and forms of regulation of wages and compensation (together with the principles of taxing wage fund growth) adopted in 1976. Only views on differentiation of wages in dependence on efficiency of management were subjected to vacillation, and this time the barometer of opinion shifted to "strong differentiation."

Advocates of such differentiation point out not without validity that the situation which occurred two years ago, for example, cannot stimulate improved efficiency. Enterprises which did not show any profit growth in 1978 had an average wage growth of 8.1 percent, while the average wage increase was 9.3 percent for enterprises at which profit growth amounted to 20 percent.

The situation should change in the future. Wage growth in dependence on enterprise performance will range from 2 to 9 percent. The greatest increase will be obtained by those enterprises which, in addition to improving efficiency, decrease the size of their work force. Standardization of the principles of regulation of income and the least possible budget intervention in enterprise income matters has also been proclaimed as a general principle.

Socially Neuralgic Operations

Hungarian leaders realistically appraise the state and past development of the world economy as well as its influence on the country's domestic situation and therefore emphasize rather preservation of the achieved living standard rather than improving living standards. But essential although difficult price operations cannot be avoided. In 30 years there has not been carried out in Hungary such an extensive and far-reaching operation in the area of retail prices as in July 1979. Two main objectives were being pursued: strengthening of internal and external equilibrium, and bringing retail prices closer to production prices. The far-reaching nature of this operation is indicated by the fact that it caused a 9 percent increase in cost of living in 1979. Thus the Hungarian public has participated importantly, although obviously painfully, in restoring economic balance.

A certain change in the structure of consumption was achieved on the one hand, which also benefited export, especially farm products, which play a significant role in trade with capitalist countries.

The first objective of the operation (equilibrium) can thus be considered achieved on the whole. The situation is worse as regards "approaching" retail prices to production prices. The term "approaching" is a euphemism, for it obviously referred to raising retail prices, which were too low in relation to cost of production, which made it necessary to employ subsidies running into tens of billions of forints (especially in the foodstuffs group). Arguments for raising prices included claims of extravagance and waste (bread), claims that low prices benefited a group of relatively affluent people, that low prices have an adverse influence on production, etc. There were enough (and still are) reasons to eliminate that situation. On this occasion they succeeded only partially, in connection with a boost in procurement prices introduced at the same time. This does not end the matter, however, for a further 3.7 percent increase in retail prices is slated this year (the first decisions were made on 31 March).

The social aspects of increasing retail prices are of course very complex; the country's political and economic leaders are doing a great deal to protect the public interest in their price policy. Socially preferential prices will continue to be applied in such areas as child-raising, health, education and culture, etc. The government is also endeavoring to keep a hand on the pulse of price movements: policy decisions aim at ensuring the government essential information in this socially sensitive area; enterprises must announce in advance planned price increases; price monitoring has been raised to a higher level; the campaign against illicit profits has been stepped up. The public is relatively calmly accepting the most recent price increases, in spite of the fact that these increases caused a slight decline in real wages in 1979.

What Does Full Employment Mean?

The composure of the Hungarians has been put to the test not only in the realm of prices. The public has also been greatly affected by transfers of workers to other branches, carried out at several well-known factories (the Tungsram Works, for example), and initiated by the well-known machinery and railcar factory, Raba in Győr. Other factories, such as the well-known combine in Csepel, have employed a different method. Instead of hiring just anybody by means of general manpower recruitment, they have begun carefully selecting genuinely needed personnel, and reducing the total number of employees "when opportune." The result of these activities in 1979 has been a reduction of 30,000 persons in the industrial work force. The following question was asked during the most recent "Forum" telecast: Do plans call for creating unemployment in order to solve the labor shortage problem?

TV viewers heard an emphatic "no!" in reply to this question from a most authoritative source. Behind this denial, however, lie unusually complex economic and social problems.

First and foremost the problem of assessing whether the present state of employment signifies a shortage or surplus of manpower resources. Judging from superficial indications, the Hungarian economy is short of workers. What is more, some economists (J. Gabor) are of the opinion that at the present stage the socialist economy must accept the fact of a labor shortage, in connection with which there is no other choice (other than temporary actions) than "to adjust" to this state of affairs.

The country's leaders and, apparently, at least a few enterprises as well do not want to accept such an extensive approach to the problem. They do not want to accept it, since it hits the very principle of efficiency. And acceptance of this state of affairs is not possible from the standpoint that with total exhaustion of manpower reserves, it is necessary to secure an influx of workers to such sectors of the economy as construction, transportation, and particularly the service industry, where there is a definite manpower shortage. In this situation the only solution is to redeploy manpower, or shift it from agriculture and industry to short-supply sectors.

Such a mass redeployment cannot be effected both without appropriate economic policy assistance (change in production structure and technology) and without appropriate participation by the economic system of enterprises (economic accountability and motivational system). Nor can one forever ignore certain problems and canons which are specific to employment policy.

Consequently certain principles are being reinterpreted in Hungary. Hungarian leaders emphasize that full employment is a great achievement which cannot be abandoned under any circumstances. Implementation of this principle, however, is up to the state, not to each enterprise. This means that one cannot accept "factory internal unemployment" (as G. Aczel has termed it) and low labor productivity. In view of this more jobs should not be created (through capital investment) than are actually needed. These are the various implications of the new view of the principle of full employment. Changes which have been made in the labor code, the objective of which is to increase worker mobility, come to this. Consideration is being given to a general educational system reform, which would promote great plans in the area of changes in the structure of production. Being considered at the same time is the possibility of transitioning at the beginning of the 1980's to a five-day work week, etc.

How did employees, and particularly blue-collar workers, respond to these actions? Newspaper correspondents report that labor discipline improved significantly at 100 enterprises in Győr following dismissal of a portion of the work force at the machinery and railcar plant. F. Havasi, secretary of the Central Committee of the Hungarian Socialist Workers Party, called upon party members, "even at the cost of local conflicts," to support those dynamic and calculated-risk taking managers and their actions, which are aimed at improved management. He also called upon them to place these managers in contrast to others who, instead of adapting to existing conditions, seek salvation in government subsidies (PARTÉLET, No 9, 1979). I should add that economic policy does not adapt to "the absorptive capacity of management cadres," but on the contrary it is required that they rise to the level of new demands, assuming at the outset that some of them are not up to the task.

Two Paths of Reform

It is interesting that one can observe a certain duality in development of the Hungarian reform. On the one hand -- as is attested, incidentally, by the decisions presented here -- Hungarian leaders attach considerable importance to continuous improvement of the arsenal of economic instruments with the aid of which they influence the attitude of enterprises. On the other hand, however, they retain a far-reaching caution as regards even the slightest changes in the institutional structure.

While refraining from further developing this topic, which could be the subject of a separate discussion, I would like to illustrate this thesis with just one example. It is the problem of the monopoly.

It is stated in a great many analyses published in the specialized Hungarian and foreign literature on the occasion of the 10th anniversary of the reform, as well as on other occasions, that intrabranch competition among enterprises, envisioned in the provisions of the reform, has not developed to a perceptible degree in every case. This is ascribed to very many factors operating in different directions, but primarily the existence and operation of subbranch monopolies in industry, which have essentially not been disrupted by the reform.

The new system inherited from the directive system a highly concentrated and monopolized organization of industry. This was a result of the reorganization of industry carried out at the end of the 1950's and beginning of the 1960's. Following this reorganization the country was covered with national enterprises and trusts, which for the most part grouped together all plants of a given subbranch. In 1968 reformers became aware of the necessity of making appropriate demonopolization changes, but postponed them in order not to disrupt the scope of reform, which was already quite substantial. As it turned out, things were postponed, but now the voluntary industrial associations, which were the sole antimonopoly alternatives to trusts in Hungary, are disappearing, and trusts are returning in their place, so loved by the branch ministries, the role and function of which has been questioned by many Hungarian economists.

We can glean from certain statements made by Hungarian experts the following explanation of this phenomenon. First of all, the principal task is the ability of Hungarian enterprises to compete in foreign markets. Large and strong economic organizations are required for this purpose, not small enterprises. Secondly, at certain times the government is compelled to intervene directly in enterprise activities. The organization of management must provide for and guarantee such a possibility.

As we have stated, it is not our aim to present a detailed discussion and analysis of these arguments, although many questions suggest themselves in connection with these arguments, such as the question whether one can imagine correct functioning of the domestic market without domestic competition, or whether it is possible to create in enterprises a capability to compete with foreign enterprises when they will not be bothered by domestic competitors. Would it not be correct -- as some Hungarian economists propose -- to adjust the organization of management to the needs of competition in the "competition area" of the Hungarian economy?

The argument claiming the necessity of securing for the government (in actual practice, for branch ministries), through the organization of management, the possibility of direct intervention in an enterprise's organization seem valid. One senses in this the desire to be protected against the possible ineffectiveness of economic instruments. Does this not, however, lead to less effectiveness of economic mechanisms? This would not be desirable.

3024
CSO: 2600

HUNGARIAN-CZECHOSLOVAK PLAN COORDINATION PROTOCOL SIGNED

Budapest NEPSZABADSAG in Hungarian 14 May 80 p 3

[Text] Vaclav Hula, deputy premier of the Czechoslovak Socialist Republic and president of the State Planning Commission; and Deputy Premier Istvan Huszar, chairman of the National Planning Office, held talks in Budapest on 12-13 May dealing with questions concerning economic cooperation during the period 1981-85.

They emphasized the comprehensive development of the two countries' cooperation in energetics. Thus, for example, Czechoslovakia will continue the shipment of coking coal and coke to Hungary, during the years following 1980. The cooperation in energetics also extends to the utilization of spoil banks--with Haldex technology--located in the Czechoslovak coal basin. Work is continuing on the linking of energetic systems. Manifold development is taking place in chemical industry cooperation, Hungarian export of pharmaceuticals to Czechoslovakia is increasing. Agreements have been reached on specialization in the production of plant protective agents and rubber.

The machine industry will occupy a leading position in the two countries' trade in the period following 1980. Firstly, production cooperation will continue in the manufacturing of highway vehicles, agricultural and construction industry machinery. Mutual shipments will increase from the various units of the machine industry.

In Hungarian machine industry exports, weak current measuring and regulating machines and equipment and chemical industry machines will continue to occupy a significant position. In Czechoslovak machine industry exports the ratio will continue to be high in highway vehicles and agricultural and construction industry machinery.

After the conclusion of negotiations, the final protocol was signed on Hungarian-Czechoslovak plan coordination during 1981-85. The plan coordination which includes the main areas of economic and commercial ties, extends a firm basis for the development of Hungarian-Czechoslovak trade.

As compared to the 1976-1980 long-term plan, the agreement makes it possible to prescribe a 7 percent increase in trade during 1981-85.

Vaclav Hula, accompanied by Deputy Minister of Domestic Trade Karoly Molnar, visited several commercial establishments.

The Czechoslovak delegation departed Budapest on Tuesday. It was seen off at the Ferihegy Airport by Istvan Huszar and also present was Vaclav Moravec, the ambassador of the Czechoslovak Socialist Republic in Budapest.

CSO: 2500

ECONOMIC DEVELOPMENT OF SOCIALIST STATES IN CEMA

Bucharest REVISTA ECONOMICA in Romanian No 19, 9 May 80 pp 24-25

[Article by Assistant Professors V. Balasa and I. Popescu]

[Text] We continue the publication of tutorial papers for the admission test for higher economic education candidates, formulated on the basis of the Program of the Ministry of Education and Instruction, by the staff of the Political Economics Department of the Academy for Economic Studies in Bucharest, under the leadership of Prof N. N. Constantinescu, corresponding member of the Romanian Academy.

The socialist countries represent a group of free, independent, and sovereign states whose social and economic order is of the same type, and which pursue the fulfillment of the common goals of socialism and communism. The national economies of the socialist countries have a number of common traits determined by the nature of their social order, but which at the same time differ as a function of specific historic-geographic backgrounds, and of the production, organization, and leadership circumstances of each country. Each socialist country undertakes its own development, while promoting relations with other states, beginning with the socialist ones. The socialist countries organize their relationships with each other along the principles of national independence and sovereignty, equality of rights, non-involvement in domestic affairs, reciprocal benefit, mutual assistance among comrades, and international solidarity.

I. Formation and Development of the Economies of Socialist Countries

The socialist order is the result of a legal, objective process of development of human society from a lower to a higher level, a process generated by worsening socioeconomic conditions in the old society, and by the victory of the socialist revolution. As a result of the Great October Socialist Revolution and the emergence of the first socialist state -- the Soviet Union -- and following the victory of the socialist revolution in a number of other countries -- among which Romania -- socialism is asserting itself throughout the world as a new mode of production.

The socialist nature of any one country is determined by the profound changes caused by the socialist revolution in such areas of economic, political, and sociocultural life as: establishment and consolidation of the political power of the working classes in alliance with the peasantry and other strata of workers; assignment of the major means of production to socialist property; elimination of the exploitation of man by man; application of the socialist principles of distribution; and so on. These revolutionary transformations are the result of the peoples' struggle, of the fight of progressive forces in each country, carried out by the working class led by its revolutionary party. In the process of building socialism, communist and workers' parties apply the general laws of socialist revolution and construction -- the essence of the socialist order being the same, independently of land area, size of population, level of economic development, and so on. The requirements of these laws, however, are met as a function of the specific conditions of each country, determined by particular social-historical circumstances, the nature of the production relationships that must be replaced, the level of development of the production forces, and political and social traditions. At the National Conference of the RCP of December 1977, Nicolae Ceausescu stated that: "No party can have imposed upon it specific models to be followed, but at the same time, no party can pretend to impose its own way upon others."

It is consequently natural that the creative application of revolutionary theory to the concrete historical conditions of each country would generate differences in tasks, forms, and methods for achieving revolutionary transformations. That is why each party's free and sovereign formulation for building the new order is a guarantee for the successful achievement of its goals. The RCP Program for Building a Multilaterally Developed Socialist Society and Advancing Romania Toward Communism points out in this respect: "As a result of the fact that communist parties have given greater consideration to the concrete problems in each country, they have achieved increasingly greater success, have become powerful national political forces, and play an active role in the affairs of their countries as well as in international affairs." In assuring a correspondence between the two modes of production, the new production relationships have stimulated the development of production forces. On this basis, the socialist countries have achieved significant growths in their national incomes. Between 1960 and 1978 for instance, national incomes have increased by 269 percent in Bulgaria, 109 percent in Czechoslovakia, 107 percent in the German Democratic Republic, 205 percent in Poland, 329 percent in Romania, 137 percent in Hungary, and 176 percent in the Soviet Union.

These accomplishments have caused essential transformations in the position and role of socialist countries within the contemporary world: before World War II the socialist countries covered 17 percent of the world and had about 9 percent of the population, while they now represent more than one-quarter of the land and about one-third of the earth's population. The present industrial production of the socialist countries has reached about 40 percent of the world's industrial production, as compared to 27 percent in 1955 and 20 percent in 1950.

II. Fundamental Principles of Economic Relations Among Socialist Nations

The affirmation of socialism as a socioeconomic order within a group of independent and sovereign states has objectively determined the need for a reorganization of relations among socialist nations along new foundations. The new production relationships in each socialist country have created objective conditions for the establishment of a superior type of international relations, without precedent in history. The pursuit of such relations is designed to assure the multilateral development of each socialist state, thus contributing to the greater influence and prestige of socialism throughout the world. The following principles are the bases of economic relations among socialist countries:

a) National independence and sovereignty. In accordance with this principle, each state individually organizes and conducts the building of socialism and communism, solving freely and without outside interference all its domestic and foreign problems. This resolution of economic, political, and cultural problems, and the efficient and unhindered fulfillment of the state's domestic and foreign functions, requires among other things that each country dispose in a free and sovereign manner of its national resources and of all economic leverages, and that it maintain relations with other states in accordance with its own interests.

The respect for national independence and sovereignty is an objective law of society's development, whose essence is the same for all countries; this principle cannot be interpreted and applied differently from one country to another.

b) Full equality of rights for socialist countries. According to this principle, the socialist countries have the same rights in their interrelationships, independently of the size of their territories, their population, their economic strength, and so on, participating under equal conditions in the examination and adoption of decisions regarding international problems of common interest.

c) The principle of non-interference in the domestic affairs of other countries presupposes the elimination of any intrusion in the domestic or foreign affairs of other states. Respect for this principle constitutes a condition for the development of normal relations among states, and of international trust and security. At the same time, this principle implies the exclusion of force or threat of force, and of any pressures on any one country, for the adoption of attitudes which are contrary to its own national interests.

d) Respect of territorial integrity implies not only the inviolability of borders, but also a respect of each country's right to dispose of the entire society's wealth within the limits of its national territory.

e) According to the principle of mutual benefit, relations among socialist states must be founded on respect of their national interests, excluding the possibility of privileges or advantages arising for some countries at the expense of others.

f) Mutual aid among comrades and international solidarity presupose a strong union, friendship, and cohesion among the socialist countries. This principle necessarily derives from a common order and from the socialist production relationships, whose nature implies the establishment of relations of friendship, collaboration, solidarity, and respect among all socialist countries.

The principles of economic relations among socialist countries constitute a unified whole which includes multiple correlations and interdependencies. The influence of socialism on the world's evolution depends decisively on the practical assertion of the new principles of relations among socialist nations, and on the strict, firm, and consistent respect for these principles as a unified whole. In consistently pursuing these principles, the RCP considers that any underestimation or disregard of even one of these principles, seriously affects the essence of relations among socialist countries, and damages the prestige and influence of socialism in the world. The RCP promotes relations of friendship, collaboration, and mutual aid with all the socialist nations on the basis of a firm respect for the principles listed above, these relations contributing to the multilateral progress of each socialist country, the equalization of their levels of economic development, and the general progress of socialism.

III. Forms of Economic Collaboration Among Socialist Countries and Equalization of Their Levels of Economic Development

The rapid socioeconomic development of the socialist countries has created favorable conditions for expanded economic collaboration among them. The collaboration among some of the socialist countries is strengthened both on bilateral and multilateral grounds. An important role in this respect is played by the Council for Economic Mutual Aid (CEMA) -- established in 1949 -- which conducts its activities based on respect for the fundamental principles of relations among socialist countries. The nature of CEMA is not that of a suprastate directing organization, its recommendations and decisions being adopted only with the consent of the countries interested in the fulfillment of the respective proposals. CEMA is an open organization that can be joined by any country which respects its principles and goals. The fundamental aim of collaboration and cooperation among CEMA member nations, based on equality of rights, respect for national independence and sovereignty, and mutual benefit, is a leveling and equalization of economic development, and an accelerated advance on the road to socialism and communism.

At its 25th Session, held in Bucharest in 1971, CEMA adopted a "Comprehensive Program for the Continued Strengthening and Improvement of Collaboration, Development, and Socialist Economic Integration of CEMA

Member Nations." This program determined orientations for improving established approaches in mutual relations among member nations, and at the same time outlined new modes and formats of collaboration which would assure the continued development of production forces at a high technical and scientific level, the formation of modern structures for national economies, and the gradual equalization of levels of economic development. Several special long-term collaboration programs were adopted on the basis of the comprehensive program, in the fields of energy, fuels, raw materials, agriculture, the food industry, machine construction, and so on. Interested states -- 22 of them by 1979 -- have siged special conventions to apply these programs.

The comprehensive program outlines the concept of "socialist economic integration," which represents a conscious process regulated by the communist party and government of each CEMA member nation -- based on respect for the fundamental principles of economic relations among socialist countries -- and which consists in expanding and diversifying the forms of collaboration aimed at a more rapid development of production forces, at the gradual equalization of economic development levels in the socialist countries, and at improving the well-being of the people. This process is fundamentally the converse of capitalist economic integration, whose nature is supra national and which affects national independence and sovereignty.

The principal forms of economic collaboration among socialist nations, established on the basis of bilateral or multilateral understandings, are:

a) Coordination of the national economic plans of socialist countries on the basis of bilateral or multilateral agreements. The socialist countries formulate their own economic plans as a function of concrete historical economic and political tasks, and of their available resources and possibilities. But since socioeconomic development is also influenced by participation in international economic relations, each country has an interest in also considering the advantages of economic cooperation with the other socialist nations when it formulates its plan. In finalizing their own plans for socioeconomic development, the party and government of each country take into consideration both their own needs, and those resulting from relations with other states, carrying out negotiations with representatives of the other countries and examining domains of collaboration.

b) Trade among socialist countries, based on long-range, mutually beneficial agreements, plays a significant role in the current and future economic development of each country. The system for determining prices in relations among socialist countries is particularly important in increasing the volume of foreign trade. The rapid development of our national economy and the diversification of production, have considerably increased the volume of our foreign trade, in particular with socialist countries, the major portion of this trade being conducted with the Soviet Union.

c) The effect of production specialization and cooperation has been to raise the technologic level of production in each country, to encourage higher labor productivity and a more judicious utilization of production capabilites, to improve product quality, and so on. Production specialization and cooperation is an extremely dynamic and constantly diversified form of economic collaboration among socialist countries, applying particularly to highly technical fields.

d) Technico-scientific collaboration is of special importance in assuring an uninterrupted and rapid rate of development of technologic progress. This form of collaboration is achieved through a mutual exchange of experience in science and technology, a transfer of scientific, technical, and production documentation in scientific and technical research, mutual training of personnel, and so on. Romania considers this form of collaboration as extremely important for accelerating the multilateral development of each socialist country, and to this end has formed joint commissions for technical and scientific cooperation with other states.

e) Socialist international credit is realized in the extension of low interest credit (1-2 percent per year), of interest-free credit for the first years of use, and at times of credit without any interest at all. This form of collaboration also includes the joint-effort construction of economic objectives owned by the state on whose territory they are built. To facilitate credit extension among the CEMA socialist member nations, the International Bank for Economic Collaboration was created on 1 January 1964, and the International Investment Bank in 1970.

The development of economic collaboration among socialist countries seeks an equalization in the level of their development, since they had different levels of economic development at the time they began building the new society. This equalization process is based on the powerful development of production forces in each socialist country.

The gap in economic development is assessed, and the process for its gradual elimination is analyzed, using such indicators as: social product, national income per inhabitant, structure of the social product, national income, foreign trade, labor productivity, economic efficiency, standard of living of the population, and so on.

The equalization of economic development levels demands a powerful development of production forces, which is made possible only by assuring rapid rates of economic growth, strong capital growth (development), and efficient mobilization and utilization of all human and material resources. Stressing an intensification of its own efforts, our country also devotes special attention to expanded economic collaboration with all countries in the world, without distinction of social order, and participates actively in the international division of labor. Emphasizing collaboration with all the socialist countries, Romania concurrently develops multilateral economic relations with developing nations, as well as with developed capitalist countries.

In Romania, the RCP Program adopted by the 11th Congress stipulates systematic efforts to equalize our country's level of economic development with those of economically developed socialist nations, and to narrow the gap between Romania and the world's industrially developed countries. In achieving this goal, an extremely important role will be played by the 1981-1985 five-year plan, which will define a new qualitative leap in all strata of economic and social life.

As Nicolae Ceausescu stated in his Report to the 12th Congress of the RCP, the fulfillment of the provisions of the new five-year plan will accelerate the country's socioeconomic development, so that "Romania will move beyond...the stage of developing socialist country, and will become a socialist country with an intermediate level of development, passing through a stage of the greatest significance in fulfilling the Party's Program on the road to a communist society."

Questions

1. What are the criteria for determining whether a country adheres to socialism?

2. What are the fundamental principles of economic relations among socialist countries?

3. What are the principal forms of economic collaboration among socialist countries?

4. What are the bases of the equalization process for levels of development of socialist countries?

11,023
CSO: 2700

GDR, SOVIET AVIATION AIDS TO AGRICULTURE DESCRIBED

Interview With Agrarflug Director

East Berlin PRESSE-INFORMATIONEN in German No 41, 8 Apr 80 pp 2-3

[Interview with Willi Gorzel, director, Agrarflug Enterprise, Interflug: "Agrarflug--a Responsible Partner of Agriculture"]

[Text] [Question] This year, agricultural workers have set themselves the goal of producing an additional 0.5 deciton of cereal units per hectare of agricultural acreage. How does Agrarflug support this plan?

[Answer] Today, it is impossible to imagine the production process of socialist agriculture without Agrarflug, and Agrarflug has consistently adapted itself to its requirements. We concentrate all our efforts on the seasonal peak, during May and June, on the second nitrogen fertilization and on plant protection operations, for instance for colza. Often, our shifts are organized so that the planes can be used up to 10 hours per day during these weeks. In order to have as many planes available as possible, the most expensive scheduled repair and maintenance operations are moved to the months before and after the peak season. Special service groups provided with vehicles and spare parts for operational tasks are ready at all times.

In 1979, we prepared for the utilization of the new Polish agricultural planes, type PZL-106 A; this year, they are demonstrating their capabilities in the late nitrogen fertilization.

[Question] What reserves could be opened in its own field by Agrarflug, to promote the intensification of agriculture and forestry?

[Answer] We have achieved a more than twofold increase in the period of utilization of the Z-37 plane. The manufacturer had prescribed a limit of 2,500 hours of flight time before each complete overhaul. A series of engineering measures, exemplary maintenance and preventive upkeep have enabled us, until now, to reach 5,600 flight hours. By pursuing this work until the middle of next year, with specialists from Czechoslovakia and from the Dresden Institute for Light Metal Engineering, we should be able to get another 900 hours out of every plane. This means that each plane could be used 2 years longer than originally planned. This will save us about 10 million marks in investments for the importation of new agricultural planes.

It is mainly during the season that a high degree of preparedness of all planes is important. Many inspections and controls are made by the station mechanic directly on the service air field, for instance during waiting periods or when the wind is too strong to take off. Upkeep operations, which used to take a full day in the repair hangar, are now performed by the station mechanic one after the other, in five blocks. He receives help from the crews. This way, the expensive back and forth flights to the technical base are no longer necessary, and much fuel can be saved. To further reduce the fuel consumption per flight hour, we have introduced a new accounting and control system which enables the crews to check their daily fuel consumption accurately themselves.

The agricultural pilots of the Dresden and Erfurt agrochemical centers have called for savings of one liter of fuel per flight hour, as a contribution to the socialist competition. For Agrarflug as a whole, this means a saving of approximately 80 tons of fuel, which represent over 1,000 flight hours for agriculture and forestry. In addition, agricultural pilots of the Dresden and Erfurt agrochemical centers intend to provide two additional flight days. This initiative has already received the support of most agricultural pilots.

Increasingly, agrochemical centers are using agricultural planes wherever they are much more effective than soil instruments; i.e., among others, for the second cereal fertilization, for plant protection operations, especially in orchards, and for the fertilization of steep-slope pastures in certain bezirks of the low mountain ranges.

[Question] How does the GDR Agrarflug cooperate with its partner enterprises in other socialist countries?

[Answer] The GDR is a member of the permanent civil aviation commission of the Council for Economic Mutual Assistance. Agricultural and special flight enterprises in socialist countries have been cooperating closely for over 20 years on the basis of cooperation agreements. We participate in international exchanges of experience and take an active part in long-term coordinated scientific development tasks. The problems which the GDR Agrarflug has to solve are more or less the same that all other agricultural flight enterprises in socialist countries have to face. Soviet knowledge, based on decades of experience, has proved especially valuable to us. The delegation of agricultural pilots from the USSR to our republic--last year, for instance, they fertilized 250,000 hectares of cereals--has been a great help.

Activities of Agrarflug Enterprises

East Berlin PRESSE-INFORMATIONEN in German No 41, 8 Apr 80 pp 5-6

[Article issued by Press Office, Chairman of GDR Council of Ministers: "Agrarflug in the GDR"]

[Text] When the civil aviation of the GDR was created in 1955, one of the tasks assigned to it was to prepare the use of planes and helicopters in our national economy. In 1975, the civil aviation and the Academy of Agricultural Sciences of the GDR made the first attempts. For this, they could rely on Soviet documentation. Czechoslovakia provided one plane with its crew.

On 20 March 1957, the first agricultural pilots of the GDR took off from a pasture on the Wesendahl state farm, near Strausberg; their plane was a converted L-60 utility aircraft; their task to spray fertilizers on the fields. Today, the fleet includes over 200 aircraft . At first, these were L-60 planes from Czechoslovakia, and AN-2 planes from the Soviet Union; in the years that followed, they were progressively replaced by Z-37 planes specially constructed for agricultural uses in Czechoslovakia. Since 1971, Soviet helicopters, type Ka-26, have also been used in low mountain range locations, and in orchard and truck farming areas. This year, new Polish agricultural planes, the PZL-106 A, have been added; like the other planes and helicopters, they are used for spraying mineral fertilizers and plant-protective agents, and to sow seeds, but also to combat forest fires.

Today, Agrarflug is a strong element in the more than 200 agrochemical centers of our agriculture, in all bezirks of the GDR. Agricultural pilots work in close cooperation with cooperative farmers and the staff of agrochemical centers. Upkeep schedules have been largely adapted to agricultural production cycles. A close network of over 1,000 service air fields provide the agrochemical center brigades specialized in aircraft operations with the best conditions for effective work.

The Agrarflug enterprise is directed centrally from the Berlin-Schoenefeld airport. In Anklam, Kyritz, Leipzig and Magdeburg, there are Agrarflug production lines with repair hangars; in Barth, Erfurt and Fuerstenwalde, field repair facilities. This is where the planes are overhauled according to schedule. Mission relays have been assigned to all bezirks; they work in close agreement with state agricultural organizations.

The workers of the Agrarflug enterprise are contributing significantly to the increase in agricultural and forestry production. The advantages of agricultural planes compared to agricultural soil instruments consist in their greater effectiveness per time unit, and in their comprehensive operational capabilities.

In 1957, agricultural planes sprayed fertilizers and plant protective agents on 19,500 hectares. Today, the annual performance of one single aircraft is higher than that. In 1966, 500,000 hectares of agricultural acreage were treated from the air; in 1970, approximately 1,7 million hectares, i.e. more than 3 times as much. In 1975, agricultural pilots increased their performance to 3.3 million hectares.

Agrarflug has consistently proved its high productivity. In spraying fertilizer, an airplane is 5 times more effective than the corresponding soil instrument, 10 times when it sprays plant-protective agents. The quality of the work performed is also excellent. The use of planes is especially advantageous in the late fertilization of cereals with nitrogen. During this period, over 250 aircrafts are in operation everyday, spraying approximately 6,500 tons of fertilizers. They take off approximately 13,000 times and treat 52,000 hectares of agricultural acreage daily.

Plant protection operations using airplanes constitute an important complement to the work done with soil instruments. In these operations, emphasis is laid on the control of potato blight and rot. Thus, the control of Phytophthora (potato blight) from the air enables to obtain an additional yield of seven decitons per hectare. Each helicopter working, for instance, on orchards, replaces 20 tractors with aggregates and 25 workers. In addition, its biological effectiveness is considerably higher.

Agricultural helicopters of the type Ka-26 also spray fertilizers on the pastures of low mountain ranges which are inaccessible to soil instruments. The value of the pasture fodder and of the additional green matter are considerably increased. As a result, good conditions for the intensive raising of young cattle are provided. Every 3 to 8 years, when the steep-slope grassland must be renewed, grass seeds are sown in spring from helicopters.

In 1970, each plane treated an average of 35 hectares per flight hour, and provided 414 flight hours. In 1975, this increased to 44 hectares per flight hour, and a total of 540 flight hours per plane. In the 1960's, a pilot could treat an average of 14,000 hectares per year; in 1975, over 20,000 hectares.

In 1980, approximately 4.5 million hectares of agricultural acreage will be treated from the air. Compared with 1975, this is an increase of 140 percent, and 2 million hectares more than the 19 million hectares which represented the objective for the Five Year Plan period 1976-1980--including flights by agricultural pilots from the USSR and Poland.

The Agrarflug training center Arthur Pieck is located in Leipzig Mockau. There, instruction and advanced training courses for all types of activities are given. The intensive training of pilot candidates without any prior knowledge of flying into agricultural pilots, in only 12 months, demonstrates the high quality of the instruction provided. Over 80 percent of agricultural pilots receive a special training as agrochemical engineers, already at the technical agrochemical school. Pilots and station mechanics take part every year in special advanced training or refresher courses. At the same time, station mechanics are also certified so they can perform the functions of take-off controllers in addition to their responsibilities in ensuring the technical operational preparedness of planes and helicopters.

The Agrarflug of the GDR is working in close cooperation with its partner enterprises in other socialist countries. Cooperation agreements exist between the Agrarflug enterprises of Bulgaria, Hungary, Vietnam, Cuba, Poland, the USSR, Czechoslovakia and Mongolia. Regular exchanges of experience, a sharing of the work involved in scientific and technological developments, and mutual loans of aircrafts have become a tradition. Thus, for many years, Soviet agricultural pilots and Polish aircraft crews have helped the GDR during the peak period of cereal fertilization. In 1979 alone, Soviet agricultural pilots came to help us with 50 AN-2 planes. They fertilized 250,000 hectares of agricultural acreage in 7,200 flight hours. In addition, three Aeroflot helicopters sprayed plant protective agents on orchard centers.

Planes and helicopters have also proven themselves in forestry, mainly in spraying nitrogen fertilizers on the forest. In 1979, over 30,000 hectares of forest were fertilized.

Planes and helicopters complement the traditional fire-control techniques in combatting forest fires. The Z-37 plane, mainly, is used to watch over forest areas threatened by fire or difficult to survey by other means, to detect and combat forest fires.

Aid From Soviet Planes

Neubrandenburg FREIE ERDE in German 30 Apr 80 p 5

[Unattributed article: "AN-2 Fliers Arrive from USSR; Comrade Gerhard Weinreich: 'You Are Giving Us Valuable Aid'"]

[Text] On the eve of the 1st of May, the crews of five agricultural planes of the AN-2 type arrived from the USSR on the agricultural air field of Interflug in Anklam. They will assist cooperative farmers in our bezirks, until about 10 June, in performing important aero-chemical operations on 25,000 to 30,000 hectares, primarily in spraying the second nitrogen treatment on cereals, in agricultural enterprises of the Prenzlau, Strasburg, Anklam, Pasewalk Kreises, and in the Friedland agro-industrial association. This is already the eighth time that Soviet agricultural pilots are coming to work in our bezirks.

Comrade Gerhard Weinreich, director of the agriculture and foodstuffs industry division of the bezirk council welcomed our Soviet friends in our bezirk with these cordial words:

"On the eve of the 35th anniversary of the liberation of the German people from fascism, we are glad to welcome Soviet comrades who, with their planes, fertilize wheat of Soviet origin cultivated with Soviet techniques."

Mikhail Vasilevich Ozhdar, commander of the north relay direction, answered in the name of our Soviet friends:

"Our crews will do their best and help our friends achieve the yields which are their objective."

This year, a total of 50 Soviet agricultural pilots will work in the GDR agriculture. From 1973 to 1979, Aeroflot has overflown a total acreage of over 1.4 million hectares in our republic. When the 1980 mission is completed, the total will amourt to 1.7 million hectares.

9294
CSO:2300

GDR-USSR COOPERATION BRINGS HIGHER PLANT YIELDS

East Berlin NEUES DEUTSCHLAND in German 7 May 80 p 3

[Interview by Rosi Blaschke, NEUES DEUTSCHLAND, with Prof Dr sc Georg Vogel, director for plant production research, GDR Academy of Agricultural Sciences: "Advantageous Cooperation With the Soviet Union: Higher-Yield Plants are an Objective of Cooperation"]

[Text] [Question] We can no longer imagine our agronomy without our cooperation with the USSR in breeding research and plant breeding. What makes this cooperation so important?

[Answer] We can look back on many years of successful cooperation between our two countries in the area of plant breeding. And this cooperation increases all the time. The intensification of agricultural production, closely related to the acceleration of scientific and technical progress, is indispensable to help us cover, more thoroughly and better, man's foodstuffs requirements. This is why we must breed new, high-yield plant varieties with a high protein content and a good resistance to pests, diseases and to extreme weather conditions.

Also, the fact that hunger still remains to be conquered in many areas of the world, that foodstuffs--especially cereals--are used as a weapon by the imperialists, makes it still more imperative for us to obtain good results in this field.

A Quicker Way to New Varieties

In the present state of scientific knowledge, no country can, all by itself, carry out comprehensive research work in all areas. Scientific cooperation with the Soviet Union, and of course also with other CEMA [Council for Economic Mutual Assistance] countries, multiplies the research potential of each individual country, its intellectual potential as well as its material and technical possibilities. As a result, we have significantly more starting material at our disposal for plant breeding. For instance, the GDR uses the collection of cultivated plants from all over the world of the Leningrad N.J. Vavilov All-Union Institute for plant cultivation. Together, we are using new methods which now make it possible to breed varieties in 7 to 8 years, compared with 12 to 16 years formerly.

The best bases for this unselfish cooperation are provided by our socialist conditions of production.

[Question] In what areas is joint research carried out, and what scientific institutions are involved?

[Answer] We are interested in varieties with a high-yield potential. Community varieties--which can be cultivated in both countries--play a part in our research which covers the most common types of cereal, root, fodder and fruit crops. The institutions involved in the GDR are the breeding agencies of the Academy of Agricultural Sciences and of the association of seed and plant producing VEB's; in the USSR, agencies of the W. I. Lenin Academy and of the Ministry of Agriculture. In addition, an extensive cooperation also takes place within the Odessa coordination center to which all CEMA countries belong since 1972 and where 14 different themes are being investigated under the present Five Year Plan.

[Question] The breeding of protein-rich plants is given special consideration.

[Answer] Yes, our requirements for protein feed have been increasing very rapidly. These requirements cannot yet be covered by our own production; therefore, we must buy costly protein feed on the international market. However, plant breeding cooperation offers reserves. I can only mention them briefly: increased protein content of cereals, improved breeding of colza, horsebeans and soybeans.

[Question] Could you name us varieties which further illustrate our cooperation with the USSR?

[Answer] The first community variety obtained by both country was released in 1978: that was the silo corn hybrid BEKOS 251. A number of community strains of cereals, sugar beets, cucumbers and lupines are now being tested by the state, one of them being the Drushba winter wheat strain.

As for potato breeding, hybridizations have been made in both countries since 1973, under a joint program. The USSR is providing its promising breeding material with high dry matter, starch and protein contents, and high resistance to rot. GDR potato breeders, for their part, are providing material with a high resistance to viruses and nematodes, early maturity and good eating qualities.

[Question] In addition to joint breeding, there must certainly be also an exchange of varieties.

[Answer] Of course. Last year in the GDR, the well known soviet early wheat varieties Mironovskaya 808, Mironovskaya Yubileynaya and Ilyitshovka alone flourished on 281,000 hectares--i.e. over 40 percent of our winter wheat acreage. This has been an important factor in increasing our cereal yields. Silo corn and lupines from the USSR have also been adopted in our country.

On the other hand, summer barley varieties from the GDR--Trumpf, Nadya, Mirena and Elgine--enjoy a good reputation in the USSR. In 1979, these were sown on more than 2 million hectares.

Tested in a Severe Winter

[Question] How does cooperation increase the effectiveness of breeding?

[Answer] For instance, exploiting differences in ecological conditions has proved extremely useful in testing breeding material. Extremely cold winters with temperatures of 20 to 30 degrees below zero are infrequent in the GDR. Nevertheless, cereals must be able to survive them. To test the resistance to winter of our varieties, all we have are climatic chambers. But in the Soviet Union these tests can take place in nature every winter--in breeding plots or in field tests. The same applies to the testing of drought resistance. In this manner, international scientific cooperation helps accelerate the breeding process and obtain more reliable results.

In summary, one can say that it is in the vital area of plant breeding that cooperation in agricultural research is at its most extensive.

9294
CSO: 2300

FINANCIAL POLICY PROMOTES ECONOMIES, EFFECTIVENESS

Prague HOSPODARSKE NOVINY in Czech 16 May 80 p 2

[Commentary by Frantisek Pavelka, official of the CPCZ Central Committee: "Financial Policy"]

[Text] A number of significant new measures of financial and budgetary policy have been introduced this year. They concern greater economies and effectiveness in the productive branches, improvement of the exportability of our products, greater effectiveness in trading them abroad, reduction of the national economy's import intensity, and savings in nonproductive consumption and administration.

In their way these measures represent a new quality in the orientation and effectiveness of financial policy. Their main objective is not economization at all cost, rather a more effective and more striking creation of a climate conducive to economies and the sound expenditure of resources, to a greater sense of responsibility for the results of economic activity.

The most important task this year is a significant improvement in the development of all the indicators that characterize the effectiveness and quality of our economy's development. In addition to exerting pressure for ensuring all the obligatory quantitative and qualitative tasks of the state plan already at the time of its breakdown, therefore, financial policy is concentrating particulary on the following:

On a more active relationship between the economic sphere and the state budget;

On a substantial reduction in material-intensive products, in the specific consumption of fuel, power, metals and other materials, in conjunction with rationalization of the consumption norms and with using primarily domestic sources of fuel, power and raw materials;

On consistently maintaining the planned relationships between the rise of labor productivity and average wages, parallel with a reduction of administrative costs and with due consideration for the principle of remuneration in accordance with the work performed;

On more effective use of long-term assets and the timely commissioning of machinery and capacities. To improve the utilization of long-term assets, an experiment is being conducted to increase the capital use charge by as much as 30 percent in cases when the specified utilization of machinery and equipment is not achieved, and to reduce the capital use charge by as much as 30 percent when these indicators are exceeded.

Pressure for the better utilization of long-term assets is being exerted also by measures in the area of capital construction where the role of the enterprises' own financial resources in financing investments is being reinforced, while simultaneously the volume of investment grants from the state budget is being reduced.

Failure to observe the specified time limits for the commissioning of machinery and equipment has negative economic consequences. For this reason a penalty payable to the state budget is being introduced in cases when imported machinery and equipment is not commissioned on schedule. The penalty is levied in a differentiated manner and may amount up to 10 percent of the procurement cost of such capacities.

In context with the new measures one should note also the greater effectiveness of some of the measures adopted earlier to economize on the operation of motor vehicles by using more extensively the services of the CSAD [Czechoslovak Motor Transportation] and the enterprises' own transport, and by reducing the number of official cars to the level that existed at the end of 1975. (Since the start of the Sixth Five-Year Plan, the number of official cars increased by nearly 40 percent.) The point is not only to reduce or not to increase the consumption of motor fuel, but also to reduce transportation costs.

Nonproductive consumption, particularly in the productive branches but also in the branches of social consumption, has increased in recent years at a rate that in a number of instances is not in accord with what we can afford or even with the objectively necessary and economically warranted needs of production and social consumption. Therefore new measures have been adopted this year (and in some instances the measures adopted earlier have been beefed up) in the sphere of the organizations' nonproductive costs and in directing the growth rates of the decisive sectors of social consumption, so as to make them more realistic. These should not be regarded as one-time measures, rather as the start of a long-term process to make nonproductive consumption in the productive and nonproductive spheres more objective and more realistic.

The goals of the adopted measures are particularly the following:

To significantly reduce and limit a number of nonproductive costs--for example, comprehensive travel allowances, propaganda and advertising costs, entertainment, refreshments and gifts, foreign official trips financed from the noncommercial part of the foreign-exchange plan and from the proceeds of foreign-exchange incentives--and the reduction or elimination of unwarranted perquisites for officials in certain branches of the national economy. Here the point is to make not total cuts but differentiated cuts, in accordance with the urgency of satisfying the needs in the individual branches;

To adjust the growth rate of expenditures for social consumption to the growth rate of national income, giving preference to education and particularly to health care;

To achieve greater economies in transportation services by using rail passenger service more extensively, by limiting or abolishing bus lines in cases when parallel rail service is adequate, and by limiting domestic and international air routes, especially when they are consistently unprofitable;

To make the management of housing more economical in conjunction with introducing financial limits on the losses of the housing-management enterprises, at 90 percent of the amount approved in the budget for 1979.

These measures for greater economies in the area of nonproductive consumption should save 2.5 billion korunas in 1980. They are also a part of the long-term program for the management of economization under the Seventh Five-Year Plan.

The rationalization of management, the curtailment of excessive administration an paperwork, is indisputably another timely problem of our economy. The first step is a reduction of the number of administrative and technical-economic workers. Further measures of economic policy, mostly of an administrative nature for the time being, pursue this objective. Here the tasks of reducing the number of administrative workers are set in a differentiated manner. In general it can be said that the tasks in conjunction with reducing the number of administrative workers are higher where the effectiveness of management is low.

To support the tasks in conjunction with reducing the number of administrative workers, financial policy specifies that in cases when these tasks are not fulfilled an appropriate proportion of the wages in the budget of the organizations may be released only with the consent of the Ministry of Finance, parallel with the application of effective consequences (also within the system of material incentives).

A reduction of the number of administrative workers in itself will not solve the problems associated with the rationalization of management. This will require also further steps, particularly the following:

A reduction of the administrative burden on managerial work;

Greater effectiveness of managerial and administrative work, parallel with enforcing the qualificational requirements for officials;

Rationalization of the work processes in administration, and elimination of duplications.

The above measures must be considered also from the viewpoint of the need to maximally utilize advanced mechanization and automation in administrative and managerial work.

The instruments and measures of financial policy should favorably influence greater economies and effectiveness in both the productive and nonproductive branches. Unless they are correctly understood and consistently realized, the positive trends will not be reinforced that have been achieved in the development of effectiveness, economization and quality since the 15th party congress and the subsequent sessions of the CPCZ Central Committee. Therefore we must approach these tasks thoroughly and with responsibility.

1014
CSO: 2400

SPRING AFFORESTATION WORK NEARS COMPLETION

East Berlin NEUES DEUTSCHLAND in German 22 May 80 p 1

[Unattributed article: "Over 18,000 Hectares of Forest Area Has Been Planted; Spring Afforestation Work Near Completion; Students Help"]

[Text] Berlin (ADN)--Spring afforestation in the forests of the GDR is almost completed. From the coastal strip to the Erzgebirge, workers of the 72 state forest management enterprises have set young forest plantations on more than 18,200 hectares. Fall plantations included, the plan provides for the afforestation, this year, of a total of 21,146 hectares in conifers and deciduous trees.

The task of forest workers was made easier by 130 planting machines. These have helped plant the trees into the soil on over one fourth of the area. In many places, forest workers have received help from cooperative farmers and others, including 50 students of the Tharandt forest management section of the Dresden Technical University. These students are now completing a five-week practical training in the Zittau Mountains. During this period, they have helped afforest 70 hectares.

Forest workers from the Halle Bezirk have now moved their working places to the Vogtland and the Erzgebirge. Accompanied by planting machines, they have come from the Hettstedt and Rosslau forest enterprises to Oelsnitz in the Vogtland to help recover the plants which had been left there because of weather conditions. Later on, they and their technology will move to the areas of the Floeha and Schwarzenberg forest enterprises.

9294
CSO:2300

INTENSIFICATION OF FODDER PRODUCTION PLANNED

East Berlin PRESSE-INFORMATIONEN in German No 55, 9 May 80 pp 5-6

[Article issued by Press Office, Chairman of GDR Council of Ministers: "Intensification of Fodder Production"]

[Text] Two-thirds of the plant production of our agricultural enterprises are used as feed for animal production. To make feed available in the quantities and quality required is an important prerequisite in attaining the planned animal production. After all, approximately 6,300 tons of meat, 22,500 tons of milk and 13 million eggs must be made available every day to the population.

This task requires that every square meter of feed-growing area be cultivated intensively. Raw feed production alone takes 35 percent of our agricultural acreage. Thus, feed crops are grown on 955,800 hectares of farmland, another 525,000 hectares consist of pastures, and 620,000 hectares of meadows. In addition, in 1979, intermediate winter crops were planted over 470,000 hectares, and they will be harvested in the coming weeks.

Raw feed is the most important source of feed energy and protein for ruminants, approximately 5.5 million beef cattle and almost 2 million sheep . Animals receive about 73 percent of their feed energy from raw feed material, through direct cultivation of feed crops such as green and silo corn, alfalfa, clover, clover-grass and field grasses, as well as from pastures and meadows. Ten percent of their feed energy is covered by intermediate crops such as fodder rye, fodder legumes, and radish--1 hectare of intermediate winter crops yields as much as about 0.5 hectare of main fodder acreage--7 percent by sugar beet tops, and 10 percent by straw.

In 1980, each beef or sheep large-animal unit will require 0.5 hectare of main fodder acreage and 0.23 hectare of additional fodder acreage. As a result, high yields and quality fodder will be required. Feed value and quality are a function of energy concentration, digestible protein content, dry matter content (water-free material in a feed product), as well as structure and cleanliness of the feed. Feed value and quality are especially good when fodder plants are consumed while still fresh. Compared with silage, for instance, feeding green fodder directly makes it possible to avoid dry matter losses of up to 20 percent. In addition, energy is saved, and the costs and expenses involved in drying or ensiling are avoided.

Over 40 percent of the raw-fodder dry matter produced in our agriculture as a whole must be preserved as winter feed. In average, in 1979, 76 decitons of silage were produced in the GDR for each raw-fodder connuming large-animal unit, plus 3.5 to 3.7 decitons of dry green matters and hay, and 5 to 7 decitons of straw, including the straw used for pellets.

The quality of the preserved material is usually not yet satisfactory. If it were improved, and if losses in ensiling and drying were reduced, large reserves would be made available. This is the objective of the silo construction program. Thirty-six million cubic meters of silo space are required to provide the 10 cubic meters of silo space required by each large-animal unit consuming raw fodder. This year, 7.4 million cubic meters will be created.

Intensive grassland cultivation also has a considerable influence on fodder quantity and quality. Considerable yield reserves can still be obtained on the meadows. In 1980, all grassland areas will be evaluated to determine what intensification operations are required. This requires close cooperation between plant and animal production collectives.

To achieve a better exploitation of the grasslands, it is also necessary to intensify pasture management. Then, animals will require less concentrated feed, costs will be lower, and less labor will be required. Especially when animals are raised in old stables, pasturing results in a considerable increase in labor productivity. According to the pasture guidelines of the minister of Agriculture, Forestry and Foodstuffs, we must extend pasturing to all suitable areas.

Forty-five to 60 percent of the total costs of animal production are feed costs. Concentrated feed such as cereals and potatoes represents a high percentage of these costs, as do feed materials produced by the foodstuffs industry, such as bran, extraction grist and others. They constitute most of the rations of hogs and fowl and complement the raw fodder of ruminants.

Feed cereals and protein concentrates such as soy grist and fish meal must be imported in large quantities. Increasing prices and increased scarcity characterize the situation on the international protein and energy-rich concentrate market. In addition to increasing the domestic production of these feed materials, we must, therefore, use cereals, extraction grist and other protein feed materials as sparingly and as effectively as possible.

An important condition in achieving this is that we increase the raw fodder intake of animals. For instance, when a cow has eaten its silage ration, it can still take 1 to 2 kilograms of hay. This provides it with a maximum of feed energy, which it converts into production. However, increasing raw fodder intake makes sense only when fodder materials are rich in energy and protein. A high level of production will not be achieved with silage of mediocre quality, old green fodder and bad hay.

Plant production enterprises have the obligation to produce and make available such a raw fodder of good quality, and animal producers must make sure that it is used in the most effective manner. The fodder collectives of the cooperation councils for plant and animal production bear a heavy responsibility in this respect.

An important element of any intensive feed production consists in making enough dry raw fodder available to cover our requirements. This involves producing dry green material and hay, and using straw in many forms. Drying enterprises and pelletization facilities produce high-quality dry feed. To improve quality, more protein-rich fodder plants should be used in technical drying, and, to save energy, only plants which have been allowed to wilt should be dried. This green material, in addition, should contain at least 120 grams of digestible raw protein and 520 cattle energy feed units per kilo of dry matter. This kind of fodder is the only one which justifies using the drying process. Straw pellets are usually produced without drying. This requires that the straw be recovered with great care. It is up to the meetings of representatives of the inter-cooperative and inter-enterprise organizations of plant and animal production enterprises to decide, in full consciousness of their responsibility, which production to adopt.

To discover and to exploit our local feed reserves, we must increase our overall development. Kitchen wastes, in particular, are not used sufficiently. At present, there still exists great differences in the discovery and exploitation of kitchen wastes between individual cities and communities. In the Frankfurt Bezirk, in 1979, roughly 115 kilos per inhabitant were recovered and used, compared with only 62 kilos in the Leipzig Bezirk. Firm contractual relations must be established between supplying and receiving enterprises so as to include all reserves.

Science and practice, fodder cultivation specialists and animal nutrition experts together carry an important responsibility with respect to further advances in animal feeding. Thus, research is under way to improve the energy concentration of raw fodder materials trhough better preservation and preparation, and to improve the protein supply to animals, mainly by using synthetic amino acids (the building blocks of protein) in hog and fowl feeds. To a large extent, what is involved is a further complex intensification on plowland and grassland to secure higher and more stable yields.

9294
CSO:2300

COMMENTARY ON NONFULFILLMENT OF PLANNED TASKS NOTED

Warsaw SLOWO POWSZECHNE in Polish 2 Jun 80 p 1

[Commentary by Z. Kom.: "Results Worse Than Anticipated"]

[Text] The Sejm commissions are analyzing the government's report on the implementation in 1979 of the national socioeconomic plan tasks and the budget. This year--as we recall--was a particularly difficult year and, hence, many planned tasks were not fulfilled. A particularly snowy winter impacted adversely on the results of transport and energy operations and because of these important elements the results of the entire national economy were lowered. The economy suffered huge losses as a result of the floods which encompassed considerable areas of the country (over 1 million hectares of farmland). In addition, the effects of the long drought reflected on the situation in agriculture.

The difficult internal situation and the adverse external conditions at the same time--increase in prices of many raw materials and other materials imported by Poland--complicated the situation in foreign trade. This impacted adversely on the supplying of nearly all sections of production and services. The need to limit imports caused a reduction of raw materials and other materials stocks and that created an additional source of disruptions in supplying production and the domestic market. It should be added that the implementation of the 1979 plan was begun with reduced stocks of raw materials and other materials because of the results in 1978, which were poorer than assumed when plan results were being prepared. Unfortunately, that phenomenon was also repeated next year. The plan for 1980 was put together on the basis of an overestimated anticipated 1979 fulfillment.

The elimination of the results of the winter, and then the floods, required the bearing of considerable additional outlays, with the simultaneous occurrence of losses in the production of a number of products. The greater consumption of coal and fuel oil, which took place during the severe freeze period, along with the coal from the coal dumps not being unloaded at the same time worsened the fuel balance in the country. All these factors disrupted the implementation of the plan.

As a result the increase in production in industry was lower than planned for 1979 and neither the planned level of freightage in transport nor of the construction-erection production was reached and the total production in agriculture was lower than in 1978. There was also a worsening of the effectiveness of management.

As a result--with the simultaneously borne higher costs than planned, the produced national income did not reach the level assumed and it was lower in 1978 by 2.3 percent while its increase in the plan was assumed at 2.8 percent.

Despite the fact that the amount of the national income for distribution was, at constant prices, lower by 3.3 percent than in the previous year (against the increase by 1.0 percent assumed in the plan) as a result of further changes in the structure of the distribution of the national income in the form of decreasing the share of investments and the increase in stocks and reserves, an increase in the level of consumption by 3 percent was assured and, therefore, in accordance with the plan.

There also followed actions, conceived on a wide scale, aimed at reducing the investment front. However, there were only limited results. To be sure, the scale of the newly launched investments was reduced from 438.1 billion zlotys estimated value in 1978 to 378.2 billion zlotys in 1979, but the estimated value of investments handed over for use was greater by 29.9 billion zlotys as a result of nonfulfillment of the plan for handing investments over for exploitation to the extent of 109 billion zlotys. As a result, there occurred a further increase in the size of incompleted investment construction. At the end of the year the commitment status amounted to 1.187 billion zlotys and the frozen investments amounted to 665 billion zlotys. It is worthwhile to recall here that the investment outlays planned for 1980 were in the amount of 600 billion zlotys.

As can be seen from the amounts cited here, the 1979 results were--as Premier Edward Babiuch stated in the Sejm on 18 February 1980--"worse than the earlier forecasts and estimates." It is that precisely which is additionally complicating and making the present economic situation of our country difficult.

CSO: 2600

MEETING ON FOREIGN TRADE DEVELOPMENT NOTED

Warsaw HANDEL ZAGRANICZNY in Polish No 1, 1980 pp 15-18

[Report by Michal Rusinski on the SGPiS research-teaching conference: "The Role of Foreign Trade and Economic Relations with Foreign Countries in the Economic Development of the Polish People's Republic through 1985" held in Warsaw 22-25 Oct 1979.]

[Text] From 22-25 October 1979 in Warsaw, a Research-Teaching Conference* deliberated at the Main School of Planning and Statistics (SGPiS). This conference was organized through the efforts of the SGPiS Department of Foreign Trade and the Institute of Trends and Prices in Foreign Trade (IKiCHZ).

The theme of the conference was "The Role of Foreign Trade and Economic Relations with Foreign Countries in the Economic Development of the Polish People's Republic through 1985." The participants represented all groupings in Poland that are involved in research and teaching activities in this area, as well as enterprises of foreign trade and the economic administration.

Papers by the following authors served as the basis for discussion both at the plenary sessions and in problem groups: the opening paper presented by Prof. P. Bozyk, PhD "The Role of Foreign Trade in the Economy of the Polish People's Republic" as well as:

Group 1. "Planning and Management in Polish Foreign Trade:" S.Polaczek, the Usefulness of the Foreign Exchange Zloty in Steering Foreign Trade; J. Soldaczuk, Foreign Trade, Economic Growth and Management Intensity; P. Sulmicki, The Effect of Foreign Exchange on the Economic and Social Development of Poland; W. Trzeciakowski, Problems of Planning and Management in Polish Foreign trade.

---

*Some materials from this conference are published in the current issue.

Group 2. "The Integration of CEMA and the Economic Development of the Polish People's Republic:" M. Guzek, The Economic Integration of CEMA Countries and the Potential for Rationalizing the Industrial Structure of the Polish People's Republic; J. Kotynski, the Scale of Mutual Trade Connections of the European Countires within CEMA; K. Starzyk, Production Cooperation with CEMA Countries as a Factor in the Economic Development of the Polish People's Republic.

Group 3. "East-West Economic Relations and the Economic Development of the Polish People's Republic:" M. Dobroczynski, Proportion and Disproportion in East-West Economic Cooperation; J. Kaczurba, Viewpoints of the East and West with regard to Questions of Mutual Economic Relations.

Group 4. "The Organization and Operation of Foreign Trade Enterprises:" K. Bialecki, The Foreign Trade Enterprise in the Economy of the Polish People's Republic; Z. Foltynski, A Variant Model of Foreign Trade Enterprise Management, A. Krzyminski, Management and Organization in Polish Companies Abroad.

Group 5. "The Role of Law in Polish Foreign Trade:" A. Calus, The Role of Law in the development of Foreign Trade of the Polish People's Republic; J. Jakubowski, The Role of Uniform Law in International Trade.

During the first day of the conference, participants had the opportunity to hear a comprehensive statement by the Undersecretary of State in the Ministry of Foreign Trade and Maritime Economy, A. Karas, on the subject of the present problems and future outlook of Polish foreign trade. This served as additional material for consideration and discussion.

The papers and discussions encompassed all the fundamental problems of Polish foreign trade, as viewed across various territorial and temporal sectors. Against the background of the long-term connections between foreign trade and the economic development of the Polish People's Republic for the whole 35-year period, there was a clear delineation of the problems of Polish foreign trade during the decade of the 1970's. The discussants did not confine themselves to an analysis of the current situation in Polish foreign trade, but made exhaustive attempts to shed light on the causes of past difficulties and tensions and, on this basis, they made recommendations for economic policy in the 1980's.

The method used by the participants of the conference for approaching questions of Polish foreign trade was comprehensive, complex and composite. In the first place, all aspects of the problem were considered; both the macroeconomic contingencies and connections and problems occurring on the microeconomic scale, at the level of enterprises, and their mutual connections were presented. Second, the problems of foreign trade were considered in close conjunction with the whole make-up of the economic development of Poland; the various kinds of feedback existing in the establishment of external and internal equilibrium were reviewed, and proposals for changes in the operation of foreign trade were formulated as an indispensable element of change in the functioning of the whole economy. Third, this analysis was characterized by the most general rules, governing, e.g., the development of integration within the framework of CEMA or East-West trade.

The point of departure for evaluating the role of foreign trade and economic cooperation with countries from abroad was the theoretical distinction between the autonomous development of the economy and its active role in the international share of labor. During the phase of autonomous development (which is in no way to be identified with autarky), the economy of a country develops in as many directions as possible, and economic cooperation with foreign countries plays a passive role. Here the role of foreign trade is the better adaptation of the material structure of manufactured national income to the structure of internal demand (both production and consumption demand). The rate and structure of exchange are determined primarily by the domestic conditions of development.

An economy which is actively engaged in the international division of labor, on the other hand, develops in close conjunction with the worldwide economy; economic decisions (including decisions that will determine the future economic structure of the country) are made with both internal and external factors being considered. Foreign trade, in this concept, serves the purpose of maximalizing the national income.

Particularly important tasks for foreign trade and economic cooperation with foreign countries are the result of the demand for a more decisive transition from extensive to intensive factors of economic development. The implementation of the tasks included in the Central Committee Guidelines for the Eighth PZPR Congress to "to raise the work quality of the whole society to a high level, and expecially to improve management efficiency in all fields of economic activity" will necessitate the more complete and more intensive use of the production apparatus, a reduction in the energy consumption and materials consumption of production and the imrpved utilization of manpower resources.

The 1970's began a stage of the gradual, increasingly active participation of Poland in the international division of labor. As was pointed out in the course of the conference, the "opening up" of our economy to economic cooperation with foreign countries was not executed at the same rate in all fields in which this would be justified and desirable; not all possibilities and channels of carrying on economic exchange with foreign countries in order to further the socioeconomic development of Poland were fully activated and worked to their full advantage.

An analysis of the rate of turnover of Polish foreign trade offers divergent results depending upon whether current prices or constant prices as well are applied in the analysis, and upon whether the rate of all turnovers is studied, or import and export are treated separately.

An increase in the rate of Polish foreign trade occurred in the 1970's. In comparison with the years 1951-1970, the average yearly growth rates of the value of turnover was more than two times greater. Moreover, it exceeded the average rates of turnover of CEMA countries for the same period, and was only insignificantly lower than the average rate for developed capitalist countries. The increase in the rate of Polish foreign trade resulted from the higher rate of price increases and from the higher volumes of turnovers.

For the whole period 1971-1978, price terms of trade of Polish foreign trade trended somewhat higher than the level in 1970, with considerable fluctuations in particular years.

The rate of increase in the volume of foreign trade showed differentiation--it was higher in import than in export. In the years 1956-1960, 1961-1965, 1966-1970, 1971-1975, and 1976-1978 the average yearly rates of increase in the volume of Polish export were respectively: 9.4 , 11.2, 9.6, 10.7 and 6.7 percent; the rates of import were respectively: 8.6, 9.8, 9.2, 15.5, 4.1 percent. In summary it is evident that the foreign trade rate achieved in the 1970's was primarily due to the increase in the volume of import.

During the conference the effects foreign trade had on the development of the Polish economy through two basic channels were analyzed: the increase in the size of the shared national income (import in excess of export) and the accelerated growth rate of the produced national income (the increase in labor productivity). In summarizing these effects participants referred to the results of the analyses, according to which for the whole period including 1971-1977, foreign trade influenced the acceleration of the growth rate of the national income by approximately 1 percent annually.

Import played a particularly important role in the process of modernizing industry and raising its technical level. We must keep in mind that only from 1971-1975 did the surplus of import over export (in constant prices) allow for the financing of 10.9 percent of the outlays for gross investments, including 28 percent of all outlays for machinery and equipment. Import for accumulation purposes increased in the 1970's by approximately 24 percent annually. Despite this high rate, a fundamental portion of our import continued to be import for current production procurement. Thus, not only the import consumption of accumulation increased, but also of current production; the portion of imported semi-finished products in the production of finished products increased substantially.

The "opening up" of the economy, which, as we have stated, was achieved by a differentiated rate for particular types of trade, was the result of a purposeful national developmental strategy for the 1970's, a strategy which was based on solid premises and supported by decisions of the highest party and state organs. The acceleration of the tempo of exchange with foreign countries, aided by an active credit policy (justified both by the current situation in trade and payments balances, and by the favorable situation on the international market), assumed the more rapid development of specialized production designated for foreign markets. This was to mean an increase in income and production factors of the flexibility of export.

At the crossroads of the 1970's and the 1980's we may ascertain the extent to which with regard to import, the implementation of the task of increasing the influx into the economy of modern machinery and equipment has proceeded with efficiency (we are not speaking here of the efficiency of the absorption of these doses of technology into industry), although not all purchases were totally justified, to the same extent our intentions in the field of the growth of export were implemented to a degree exceeding the possibilities afforded by the present stage of development of the national economy.

The participants in the conference were in agreement that the causes of somewhat unsatisfactory effects in foreign trade should not be sought in one factor alone. The aspect of the supply of export goods as well as the conditions of the market for Polish goods on foreign markets must also be considered. Bringing out and accentuating the external conditions (undoubtedly more difficult than anticipated) under which the tasks of the 1970's had to be completed, and which will most likely continue in the next decade does not free us from the duty of a thorough analysis of the internal factors and insufficiences which were the cause both of the insufficient pro-export orientation of outlays made particularly in the first half of the 1970's and of the delay in the effects of these investments.

An especially unfavorable consequence of the lagging of the rate of export behind the growth rate of import was the increase the balance of trade deficit, particularly in the exchange with developed capitalist countries. The indexes of import covering export significantly dropped. Steps undertaken during 1977 and 1978 having as a goal the rationalization of import, the accompanying regrouping of resources in the economy and a reducation in the share of investments in the national economy resulted in a certain improvement of ratios in foreign trade. Limitations on imports, however, cannot be counted on as a longer-range solution. They also have unfavorable consequences, manifested in the worseing of industrial procurement of certain raw materials and other materials for production, which in turn may create obstacles to the much-desired increase in effective export. The most substantial reduction in this area is to be expected from a reduction in the capital consumption of development and the energy and materials consumption of current production, as well as from the gradual rationalization and raising of the technical and organizational level of agricultural production.

A primary course to follow in overcoming present difficulties in foreign trade ought to be accelerating the rate of export, particularly on free foreign exchange markets, in order to lessen the trade and payments balance encumbrance in repayment for debt servicing.

The question arises: Where are we to find the reserves for the growth of such export, and what methods should we use to activate these reserves? Attempts to answer this question were included in the majority of papers presented at the conference and in statements made both in the plenary discussion and in question sections. A related question is that of the structure and specialization of export. The continued acceleration of restructuring, particularly in export for the markets of highly developed capitalist countries, where there is still the most to be done, was recognized as one of the most important tasks in foreign trade in the 1980's.

An increasingly greater role in export should be played by industrial products, particularly by products of metallurgy, mechanical engineering and the chemical industry. These industries in the 1970's absorbed the most technology and equipment, and on this basis they executed the substantial rebuilding and modernization of their production capabilities. This not mean that we should abandon the effective export of fuels, raw materials and other materials for production, or the export of farm products. The share of such exports in the whole of our exports, however, will be reduced. The continued growth of the domestic demand for such goods will also be of significance here.

The options in exports specialization for free foreign-exchange markets present particularly thorny problems. On the one hand, export specialization is a premise indispensable for the acceleration of the rate of export; on the other hand, it creates certain dangers and threats which must be resisted by our trade policy and export market strategy.

Such specialization places a considerable concentration of investment outlays in selected fields of the processing industry, with a designation for export. Conditions for the success of the specialization strategy are both the accurate analysis and prognosis of the rate and structure of foreign markets. Specialization, however, sensitizes exports both to sudden fluctuations in demand and to restrictions in import which, even if they do not cripple export, bring up its cost significantly and increase uncertainty in market activity. Perhaps we should also be cognizant of the fact that export specialization also necessitates the readiness to assume certain costs in the form of the slower growth of fields which are not included in its scope.

Discussion during the conference touched upon both the goods structure and the geographic structure of trade. It was ascertained that the development of all directions of exchange and economic cooperation engaged in up to the present is essential. There can be no question of setting up exchange within the CEMA framework in opposition to exchange with capitalist countries, since this would be highly unprofitable. Socialist countries are not in a position to implement the demand for complete self-sufficiency in raw materials procurement, or in energy carriers as well, in the near future, and they will procure these materials to a significant degree on the markets of developing countries. It would also be a mistake, and highly unrealistic, to be cut off the import inflow of technology from highly developed capitalist countries; it is rather a question of making better use of these purchases based on our own scientific-research potential as well. Attention was likewise called to the indiscriminate character of the instruments making up cooperation of CEMA countries, and to the fact that cooperation within the CEMA framework with the West, in order to increase the level of specialization of the economies of particular countries.

The current system of differences both in the resources of production factors and in their relative productivity creates premises for increasing exchange with developed capitalist countries and for changing the structure of these differences. Such trade is implemented, however, under conditions of considerable internal complementarity with the compass of this group of countries, and of the rather extensive involvement of many of them in exchange with developing countries. The task of developing this trade, and particularly export, is thus difficult, even without some sort of additional protection or discrimination.

Participants in the discussions called attention to two aspects of the ever-increasing placement of various obstacles to market access by Western countries. On the one hand, as we have pointed out, they create difficulties for export or sometimes simply make it impossible; on the other hand, however, there may be difficulties (e.g., health requirements, safety norms or environmental protection), but these are not always applied as a means for discriminating among foreign suppliers. The experiences our exporters have amassed in trying to adapt to several new market requirements should be widely applied in market strategy and price policy. There is no indication that the conditions of operating in Western markets in the 1980's cannot be subject to substantial changes for the better.

The demand for increasing specialization also refers to exchange with CEMA countries on the basis of the favorable economic and institutional conditions which have been created for this purpose. Despite appreciable results in the field of specialization and cooperation connections with CEMA countries the present situation cannot be considered satisfactory. The potential for increasing these connections must be sought in the improvement of methods and procedures in work on specialization agreements.

In general it may be stated that maximum export effort, implemented within new organizational-economic frameworks, is essential. Sources for considerably improving the present situation may be found right in the sphere of planning and controlling foreign trade. Strong interest in export in all elements of the economy should be created. One way to create such strong preferences for export would be to enable the use of a certain portion of foreign-exchange means derived from export by economic organizations, who would then use it for the purpose of their further pro-export development. This would be one of the methods for implementing the general demand for giving such a direction to executed investments, in order to create greater possibilities for the more rapid growth of effective export and for investments which cover the costs of the building of installations within a short time, possibly investments which are materials and energy conservative. This would also allow for a reduction in the share of anti-import investments, which are not always justified from the general economic point of view, to an absolutely indispensable minimum.

The postulated changes in the system of planning and management of foreign trade move in the direction of introducing elements of a parametric system in trade with capitalist countries, of setting in order and improving the system of prices and rates, of the consistent application of transaction prices; in the planning of exchange with CEMA countries which has been ordered, the bilateral coordination of plans must be supplemented in a greater degree with multilateral coordination.

There exists a need for differentiated approaches to exchange with developed capitalist countries and developing capitalist countries. Trade policy must take into consideration the new requirements created by the development of Third World countries both in the aspects of cooperation and competition. Export expansion on the markets of developed capitalist countries should be flexible enough to escape the threat of restrictions, and in case of need to execute a rapid maneuver, e.g., by means of a change in the assortment of exported products within the framework of a given commodity group. We must continue to develop industrial cooperation, to the extent that economic accounting confirms real benefits from such cooperation.

The questions discussed in three problem groups at the conference had a certain thematic distinction: the organization and operation of foreign trade enterprises, integration within the CEMA framework and the role of the law in Polish foreign trade, although of course, as stated in the introduction to this article, a close connection exists between macroeconmic connections of trade and development and the issues of these groups.

A multilateral evaluation of the present system of organization of foreign trade enterprises, of its merits and defects, was made. Among the defects were numbered the uniform establishment of organizational structures, the insufficient flexibilty of operation in outlets and in the sphere of adapting goods to the needs of these markets. This system, on the other hand, has brought the producer closer to outlets, has evoked favorable changes in the manner of thinking about foreign trade and has enabled the restructuring of trade services and servicing operations abroad.

It was ascertained that, in the future, the commodity criterion should not be the sole principle for creating foreign trade enterprises at a time when the demand exists for comprehensive procurement in various fields of trade. One way out of this situation may be through the creation of different solutions in the sphere of the organization and management of foreign trade enterprises. A form of market organization, particularly market organization of highly developed capitalist countries, which has undergone especially rapid development in recent years has been that of enterprises with a share of Polish capital which operate abroad. The development of these companies has brought out certain shortcomings in the sphere of the marketing of Polish goods on foreign markets.

A matter raised during the conference which demands special emphasis is the question of the diligent improvement in conditions created for foreign trade by the Polish transport infrastructure. Shortcomings in this field may create a bottleneck, making the actuation of exchange difficult.

In discussion on the working of integrating processes taking place within the CEMA framework to change the economic structure of member countries, it was emphasized that the process of the rebuilding of the economic macrostructures of European CEMA countries proceeded according to similar patterns and developed above all out of the domestic needs of each economy. This, however, does not exclude the possibility of and the need for transforming complementary economic microstructures, particularly within the framework of the processing industry. This process, however, has not been carried very far as yet.

Some new problems discussed in detail were those which must be resolved together with the appearance of forms of investment and production cooperation connected with the participation of Poland in the implementation of the multilaterally coordinated program of integrating endeavors of CEMA countries for 1976-1980, as well as of long-range trends programs of cooperation in selected fields.

In the course of the discussion a proposal was set forth to undertake studies on the concept of creating, within the CEMA framework, e.g., through the International Investment Bank (IIB), a joint raw materials fund for the purposes of granting credit for production development and the eventual purchase of raw materials by member countries.

The development of the international market of CEMA countries and the creation of conditions for its effective operation are recognized as essential conditions for the further progress of integrating processes as well.

Participants in the discussion on the role of law in the development of foreign trade concentrated on the following major problems in this field: the legal consequences of the method of formulating the state monopoly of foreign trade and the principle of all-national ownership, the legal status of the foreign trade enterprise, the characteristics of the legal regulation of domestic relations among enterprises involved in foreign trade, the problem of the legal regulation of relations with foreign contractors, the matter of the so-called international trade code, the perspectives and meaning of uniform (joint) law in the development of foreign trade. It was ascertained that the legal norm is an essential factor in the development of economic relations with foreign countries. The legal regulation of foreign trade of the Polish People's Republic is still too fragmentary and unclear. We must aim towards the sort of legal regulation of Polish foreign trade that would be flexible enough so that under no condition would it weaken the autonomy of foreign trade enterprises.

In Poland not all possibilities have yet been taken advantage of to create for the development of foreign trade the properly structured legal regulation in the area of the foreign trade enterprise statute, or with reference to the legal relations of foreign trade enterprises with domestic and foreign contractors.

8536
CSO: 2600

COAL TRANSPORTATION SERVICE PROBLEMS DESCRIBED

Warsaw PRZEGLAD KOMUNIKACYJNY in Polish No 2, Feb 80 pp 49-52

[Article by Jerzy Wegierski: "Problems of Coal Transportation Service in Poland"]

[Text] Problems connected with the coal transport service in Poland result on the one hand from the location of exploited deposits and on the other from placement of its delivery points in the country and trends in export. One has to recognize two types of transport service tasks: transportation of hard coal and transportation of brown coal. A common characteristic of both tasks is their extremely fast growth resulting from increased mining (see table).

	Production in millions of tons			
	1946	1960	1975	Forecast 1990
Hard coal	47.3	104.4	171.6	262.6
Brown coal	1.5	9.3	39.9	140.0

Brown coal is almost totally (95 percent) consumed in thermo-electric power plants located in the vicinity of the source of coal. The problems of its transport are therefore the problems of short-range transportation, solved mainly by using belt conveyors between the mines and the power plants and also local mining industry railroads.

Thirteen percent of the hard coal mined is delivered to coking ovens, 37 percent to industrial energy conversion plants and 24 percent is exported, the remaining recipients are scattered. The peripherial location of the Upper Silesian Basin's coal mines (97 percent of total production) relative to the country as a whole and with respect to sea ports results in the fact that 90 percent of public transportation is burdened by hard coal transport.

The heretofore poor development of waterways in Poland, rooted in historical causes, means that only 1 percent of coal production is transported on inland waterways and 87 percent burdens standard-gauge rail transport. The remaining 12 percent of production is transported on public narrow-gauge railroads within the coal basin, also a net of standard-gauge mining industry railroads, automotive transportation, belt conveyors and overhead lines. Consequently, transportation of hard coal accounts for 38 percent of total freight transportation services on PKP (Polish State Railways) standard-gauge tracks and thus creates for them a rather weighty problem. It should be added that these railroads reach very high freight-transport indicators (13.1 ton per inhabitant annually; U.S.--in comparison--6.5) and in passenger transport (32.1 trips per inhabitant annually; U.S.--1.3) thus resulting in a state of almost totally exploited transportation capability on many lines and particularly at junctions.

In view of the high cost of the railroad investments needed to increase this capability, the problem facing Polish railroads is how to accomplish their ever-growing transportation tasks.

The shipping of hard coal from the Upper Silesian Coal Basin proper presents particular difficulties. This basin, where the first coal mines originated in the 18th century and where the first railroad lines for coal transportation date back to 1840's, is described today as a center or railroad junctions.

In the Basin and its vicinity are concentrated the majority of coking plants and steel mills (in 1972, 81 percent of domestic coke production from hard coal, 93 percent of pig iron and 88 percent of natural steel) and industrial energy conversion plants (42 percent of electrical energy production). This in turn causes a large concentration of transportation needs.

Consequently in Katowice voivodship, which includes the Upper Silesian Coal Basin and which covers 2.1 percent of the country's surface, 46 percent of standard-gauge transportation services of the PKP originate, and 16 percent of transportation terminal points are located there. The standard-gauge and narrow-gauge rail transportation network which is presently available here was begun in the past century. It grew spontaneously and through development adapted to the growing needs, which at the turn of the century amounted only to 15 percent of present transportation needs. After WW II this net was further expanded and modernized, and in addition a separate network of mining-industry railroads was constructed for transport of filler sand to the mines.

Not counting the mining railroads, the density of standard-gauge railroad tracks in the Upper Silesian Basin (20.6 km of railroad track per 100 square km, including 53 percent of double [illegible] multiple track) is presently 3 times greater than the Polish average. This network is additionally characterized by many sidings individually connected to PKP stations. Thus a large volume of freight will compound the difficulty of fully utilizing the network.

The situation in the southwestern portion of the Upper Silesian Basin is different. This is the Rybnik Coal District, which in large part has been developed over the past 20 years according to plan. In the now realized planning for the development of this district the principle of non-intensification of public railroads was adopted as it pertained to the needs of coal mines under construction. Plans were made instead for (the existing today) network of mining railroads with only few outlets to the PKP network. This serves equally to transport coal (among others to a local power plant) as well as for transport of mine filler sand, removal of waste materials to the dumps and inter-mine transport services. The mining railroad network is operated by a mining industry transport enterprise. Despite a correctly developed network of railroad tracks and sidings the possibility has been contemplated of partially transferring coal loading activities to centralized loading bases located near the above mentioned PKP outlets, in order to shorten the turnaround time of railroad cars. Delivery to bases would be by conveyor belt.

For coal transport on the PKP tracks 2- and 4-axle coal cars are used with an increasing proportion of the latter. A small percentage of these are dump cars (Talbot cars) and bucket cars (for unloading at inland waterway ports), because the majority of coal recipients have car dumpers or mechanical unloading installations. Since the majority (70 percent) of coal shipments are to bulk customers who have their own sidings, two-thirds of coal transport can be accomplished by shuttle trains or direct-route shipments which are assembled at the sending stations and are not subject to enroute switching. The average loading of these trains, subject to marshalling yard and locomotive conditions, is at present 1,330 tons; however, on some links, using dual locomotives, loadings on the order of 2,500 ton can be achieved.

Use of shuttle trains permits avoiding marshalling yard work while simultaneously shortening railroad car turnaround time by 40 percent--using direct-route trains, 36 percent--which is of considerable value. In order to enhance possibilities of compact train utilization the construction of trans-loading bases has begun in Poland, in the vicinity of freight delivery points, including coal, with the aim of concentrating scattered deliveries.

The Upper Silesian Basin is characterized by having three times more freight tonnage shipped as received. The resulting lack of coal cars for loading has to be compensated for by moving empty coal cars from the entire PKP net. A rational distribution system for empty coal cars to various coal mines becomes a serious problem complicated further by differences in empty car movement from all directions, combined with simultaneous changes in amounts of coal shipped out, as well as the diversity of coal recipients and their requirements as to types of coal cars corresponding to the shipment.

A solution to this problem has been attempted lately by activizing a computerized information/decision center operating in six-hour cycles, based on information on coal car demand as received from coal mines and information relevant to coal car availability as received--with appropriate lead-time--from railroad stations. Obviously this system does not include rolling stock of shuttle trains which are subordinate to a different management.

A separate problem is presented by the dispatching of coal transports, in particular to sea ports; this is very difficult as it requires synchronization with the arrivals of ships to be loaded. It is also planned to deal with this problem by activizing a computerized information system which would be utilized by the mining industry, railroads, inland waterways transport, exporting enterprises and sea ports. A concept of this computerized system has been understudy for the past few years.

In passing to technical solutions one has to stop and consider the problems of coal mine railroad yards and installations for loading and weighing coal.

Old mines which supply hard coal, mainly stoking coal, and which were originally planned for a daily output not exceeding 4,000 tons often produce coal in various grain sizes and sortings and coal on several tracks using loading installations of low productivity: 60 ton-hours for large lump, hand sorted assortments,up to 700-ton hours for the remaining assortments normally using coal bins which direct loading, or by use of conveyor belts. The cars are weighed during loading on a railroad-car scale. Coal car marshalling to loading sidings is often performed by car shifters. Shunting on sidings is by cable capstans. Such a type of coal mine rail yard which precludes larger loading capabilities is described as a station with a perpendicular loading front.

During the past 20 years, when constructing new coal mines and modernizing old ones, some elements of semi- and full-automation were introduced to coal mine rail yards. These included shunting cars with remote control and cable drive. This turned out to be insufficient for coal mines whose output sometimes exceeded 10,000 tons daily.

In mines with large outputs--mainly of coking coal--with a small assortment of coal lump sizes and destined to bulk recipients through shuttle or direct-route trains, a trend has developed during the past 10 years to install coal mine rail yards with a parallel loading front.

These include installations permitting rapid coal loading (1,000-2,500 tons per hour) directly onto coupled groups of cars. There are two or three loading sidings. In comparison with the old installations where loading sidings were placed directly under the mechanical coal processing plant, new coal mines and those modernized in this manner have their processing plants located outside the coal mine rail yards, and only the loading installation and coal bins are located over the siding. Coal is fed from bins equipped with mechanical container scales or electro-mechanical conveyor scales. The actual loading is performed by means of a car-loading assembly which moves along the track. Two workers operate two or three such loading installations. The first of this type of loader was put into operation at the end of 1972.

The principal recipients of hard coal shipped by railroad are industrial energy conversion plants, sea ports and coking plants. The old unloading installations here which employ scoops are being replaced by car dumpers or often by utilization of self-unloading cars. While scoop unloading is universally adaptable, i.e., they do not require special coal cars, unloading by scoops is slow, and in addition scoops damage the rolling stock. The disadvantage of unloading by revolving-car dumping lies in the necessity of uncoupling and shunting of individual cars, normally by means of a shunting engine, because PKP does not have coal cars with rotating couplers. Lately, revolving dump car installations with a lift of 160 tons have been used; however, their length permits only acceptance of single coal cars. In planning are car dumping installations which will permit simultaneous dumping of several cars.

Among the self-unloading coal cars a special mention is due (container type) bucket cars used mainly for coal transportation to river ports. These have two or three buckets mounted on a chassis, each bucket holding 13.5 tons. They are unloaded at the delivery site by a lifting carne, and are equipped with automatic doors which open over the barge.

A special problem is encountered in Poland in transportation over long distances during winter: the coal cargo freezes. Particularly sensitive to freezing are small grain size coal shipments, up to 50 mm dry and up to 80 mm wet. In Poland we have on an average 45 days per year when the temperature is below freezing.

When one takes into account the thermal inertia of a loaded coal car, one can accept that on an average up to 25 percent of the days in a year will present difficulties in unloading of coal.

The simplest method--that of mechanical agitation to disturb the cohesiveness of the load--causes damage to the rolling stock. Two main avenues of approach to this problem are used in Poland: application of foil and synthetic materials as a lining to the boxes of cars which are emptied on car dumpers, and use of thawing facilities heated by natural gas and radiators.

Another problem is contamination of railroad track by coal dross. This results mainly from losses of coal in transit: coal dust escaping through crevices of coal cars, spilling over the sides or being blown out. Losses of coal in transit over the PKP tracks are estimated at about 0.5 percent of transported coal. Independently of the losses, the contamination they cause is responsible for deterioration of the physical characteristics of railroad ballast, degradation of electrical properties of track circuits and increased unreliability of railroad signalling systems. This in turn brings about an increased frequency of surface repairs which result in more frequent track closings and impediments to rail movements. On the one hand attempts are made to seal and leak-proof coal car sides, and dump cars are being introduced which have no doors and are unloaded on tippers. On the other hand steps are being taken to protect the railroad bed from coal dross damage by applying protective layers and foil coverings. This problem has to be addressed also from the environmental protection point of view.

Additionally, within the extent of the Upper Silesian Coal Basin, which is typically full of exploited thick coal beds, many sections of railroad track and rail yards (28 percent of tracks) have been deformed by settling of the ground resulting from mining operations. This necessitates speed reduction of passing trains and causes additional track maintenance, making the difficult-enough conditions for shipping of coal out of the basin even more difficult.

In order to improve the situation and relieve the railroad from coal transportation tasks within the basin, the Polish coal mining industry intends to construct coal dust shipping bases located on the peripheries of the basin. This would permit dispatching on the PKP network of heavy freight coal trains which would originate at the shipping bases, thus eliminating the necessity of coal transportation within the basin, especially since the geographic profile of the railroad lines in the this sub-mountainous region does not permit the running of heavy freight trains.

The coal transportation problem will in the future benefit from the implementation of the provisions of the PZPR Central Committee resolution dated 16 June 1978, relative to the comprehensive development of the Vistula river. It is planned to make a modern inland waterway, for coal transportation among other purposes, connecting to the Gdansk-Gdynia port complex, the largest on the Baltic. It is also estimated that within the framework of this enterprise, the so-called Silesian Canal will be constructed to connect the Vistula and the Oder rivers passing through the Rybnik coal district. This inland waterway will be able to accept some 30 million tons of coal freight annually, thus considerably lessening the burdening of the railroads.

Finally, under study are the possibility and advisability of using the hydraulic transport and pneumatic conveyors for transportation of coal as well as a more general utilization of a converyor belt system. On the other hand a wider utilization of overhead cableways is not planned because of economic considerations, their rate of failure, necessary stand-down time for repairs, particular atmospheric considerations and environmental protection aspects.

Of the three methods of transportation cited it can be foreseen that the belt conveyors will be used only for short haul distances--under 20 km--because of their inherent initial high investments outlays for track construction and low outlays for terminals. The need for an environmental protection measure against coal dust forces the employment of an air-tight tunnel or tubes for the conveyors, most economically in the form of a self-supporting beam construction with a span of 80-90 m, the same as those lately employed in Poland. Construction of conveyor systems is often opposed by urban authorities, which regard overhead conduits as an architectural element of low esthetic value.

There would be no objection from that point of view to a system which employs an underground pipeline, either hydraulic or pneumatic. As for hydraulic transportation, there is in this respect some expertise in Poland since this mode of transportation is employed in the internal coal movement within the area of few coal mines, and in one case involves transportation of clay sludge to cement works for a distance of 15 km. Recently, several projects were announced to employ hydraulic transportation as a means of moving coal to a thermoelectric power plant across distances of 90-480 km involving quantities in the range of 4-6 million tons annually; also mentioned was transportation of coal abroad. Our commercial considerations preclude reaching a decision in this matter: it includes the necessity of obligating the recipients to a 15-20 year (contract) involving a specific mine or mines, possible inconveniences should there occur a change in the characteristics of the coal mined, and also a lack of suitable quality (salt free) water at the originating point of the slurry--Upper Silesian Coal Basin. Additionally, hydraulic transport would deprive the railroads of the most convenient for them (bulk) form of coal freight. Also the mines and industrial energy conversion plants which use hydraulic transport would be burdened with the chores of slurry preparation and its subsequent dehydration. Additionally, the recipient would have to adapt to utilization of coal with a grain size of 2 mm with a large proportion of smaller fractions. Under these circumstances both the coal mining industry and the power production industry regard rail transportation as being the most convenient for them; also, geographic considerations do not suggest any other solutions.

At the same time consideration is given to the possibility of employing a form of pneumatic (tube) coal transportation in containers (a tubular atmospheric railroad, according to a Soviet solution), across lesser distances (up to 20 km) and in smaller shipping quantities (up to 3 million tons annually). Should either of the two solutions involving tubular coal transportation be adopted, there will be some definite difficulties within the Upper Silesian Basin: cases of ground settling and the protection measures needed against electrolytical and ground corrosion along the entire extent of tubular transportation.

9511
CSO: 2600

AUTOMATION, ELECTRONIZATION OF PRODUCTION PROCESSES

Bucharest REVISTA ECONOMICA in Romanian No 19, 9 May 80 pp 9-11

[Article by Dr Barbu Gh. Petrescu, deputy director general of the Central Institute for Economic Research]

[Text] In Romania's economic development, an extremely large role is being played by the production of highly technical products for the mechanization and automation of machinery, tooling, and installations. At the 12th Congres of the RCP, Nicolae Ceausescu stated: "A significant role in this respect will be played by expanded mechanization and automation, the construction of totally automated fabrication facilities, particularly for foundries, forges, thermal treatment departments, and other heavy manufacturing sectors, as well as by the use of multifunction machine systems, industrial robots, and microprocessors. Steps will have to be taken toward the computer control of technologic processes."

What actions are being taken in our country's specialized industry to achieve these goals in the area of manufacturing automation, and to what extent are we keeping up with these trends throughout the world?

Priority Development of Electronic Automation

The production of means of automation during this year will increase by about three times with respect to 1976, and by 7.6 times in 1985. On the basis of our own designs, automation and computerization systems for production processes are being manufactured and applied in industry using 85-90 percent domestic instruments and equipment. In 1976-1980 priority was devoted to the development of electronic means of automation, using integrated circuits, a new line of electronic pressure, level, and flow transducers, newly introduced numerical control devices for machine-tools, and remote data processing equipment. In addition, we produced and implemented our first process computers, used to control technical processes, and we diversified, standardized, and expanded our range of automatic electric regulators for high powers (4500 kW). This equipment development has had a positive influence on the superior utilization of raw materials, and especially of metals. As can be seen from table 1, these

Table 1. Metal utilization in the manufacture of automation products (thousand lei/ton).

Material	Achieved	Preliminary	
	1978	1980	1985
Total metal	265.4	295.4	320.0
Finished steel mill products	322.58	344.8	416.7

Table 2. Material costs per 1000 lei of produced goods.

	Achieved		Plan
	1976	1978	1980
Means of automation	618.0	501.5	490.0
Electromechanical	599.5	513.3	499.2
Electronic	665.8	476.1	474.8

achievements have been significant, but continued action is necessary to exploit automation devices at an even higher level, and to improve their miniaturization. This will lead to large cost reductions, particularly for materials (table 2).

The energy crisis has stimulated the production of automation devices because of more stringent requirements for rigorous control of industrial processes, particularly in areas associated with the extraction, processing, and utilization of energy resources. Our industry is stressing the electronization of means of automation: the 1985 production of electronic automation devices will be more than tree times higher than that of 1980, as compared to only 1.6 times higher for electromechanical means. Of the two categories of analog systems -- pneumatic and electronic -- the international data shows that the latter will undergo the more rapid development, with a 62.8 percent growth in 1984. This trend is primarily supported by:

a) An increasingly large scale integration of electronic components, with direct effects on miniaturization, reliability, modularity, and cost of instruments and equipment;

b) The accelerated introduction of computer technology -- electronic in essence -- in technical process control, requiring compatibility between conventional systems and computers.

However, pneumatic automation devices are preferred in the large traditional industrial areas of oil, gases, chemistry, petrochemistry, and generally, in installations where there exists a danger of explosion and where working conditions are hard. Pneumatic instrumentation will continue to coexist with electronic devices because of its specific advantages, and because of predictable functional and construction improvements.

The automation market for industrial processes will be strongly affected by the development of microprocessor technology. While the 1973-1979 period saw a significant development of control systems based on process computers and minicomputers (an 11.5 percent annual growth rate), a veritable explosion in microprocessor digital control techniques will occur during the 1980-1985 period (20.2 percent annual growth rate), their proportion being expected to exceed that of analog-electronic and pneumatic means combined. In terms of value, the largest group in the means for industrial process automation is the transducers and measurement instrument group. Although their growth rate as a group is only 6.3 percent per year, and thus lower than the overall growth rate of the automation industry, their proportion within the industry remains large -- 41.5 percent in 1973, 39 percent in 1979, and 37.9 percent in 1984.

High Efficiency Elements: Microcomputers and Microprocessors

The outlook for products designed for automation is known to be strongly stamped by process computers. One could say that the present stage can rightfully be called the computer technology era, where microcomputers and microprocessors represent a revolutionary influence similar to that represented by the introduction of the transistor in 1965.

By 1980 and throughout the world, microprocessors will have a strong impact in the consumer goods industry (15 percent), in automation -- computer technology and industrial electronics -- (20-25 percent), institutions and administration (35 percent), telecommunications (20 percent), as well as in other areas (10-15 percent). The current opinion is unanimous that the automation industry will be dominated by microelectronics through microprocessors, large scale and very large scale integrated circuits, and memories, with the stipulation that it is very difficult to draw a line between microprocessors and microcomputers. Some statistics and preliminary data show that 240,000 units were installed in 1978, and that this figure will reach about 350,000 units by the end of 1979. At the present stage of development a microcomputer is 300,000 times smaller than the first computer, consumes 55,000 times less power, is 10,000 times more reliable, and is much lighter -- 0.6 kg as compared to 30 tons for the first one.

The powerful development of microelectronics and its impact on electronic systems for technical process control and regulation, has effectively manifested itself in the appearance of radically new systems which are primarily computer systems, in that their construction and programming (software) are similar to those of computer systems and are effectively based on microprocessor and microcomputer technology.

Between 1981 and 1985, Romania will stress the electronization of means of automation, with the latter growing more than three-fold during that period, as compared to a 1.6-fold increase for electronic means. As a whole, the production of means of automation by 1985 will be 2.4 times that of 1980. At the Industrial Central for Telecommunications and Automation Equipment, the 1980 production of means of automation is 45.8 percent of its total production, and will increase to 49.46 percent in 1985. Along with this emphasis on means of automation, there will also exist an increased production of electronic means of automation, from 30 percent in 1980 to over 50 percent in 1985.

Within the anticipated production, 67 percent will be new and modernized products, including 29 groups and families of products, most of them based on advanced technology using high performance electronic products such as microprocessors, memories, and integrated circuits. Some of the new families of products which will be introduced in manufacturing will be:

a) A digital control system with color cathode-ray tube display, for general industrial applications;

b) Systems for controlling high power, direct current equipment in metallurgy and power generation;

c) Alternating current controllers;

d) Integrated control systems using process computers.

At the same time, we will intensify the introduction of technical processes and procedures to improve the professional appearance of components, subassemblies, and metal enclosures, compatible with the electronic design of the products. In order to assure equivalent reliability levels, we will have to introduce testing with specialized equipment on a much wider scale, both for components and for subassemblies and final products.

We will also point out that in addition to the extensive miniaturization of products, the growing usefulness of highly integrated electronic products will also have the effect of significantly reducing wiring and installation activities in final product departments, thus freeing working areas and manpower. In this respect, design activities are focused on the construction of modular unified systems which enable easy coupling of components and families of components, in equipment and systems intended for diverse industrial applications.

Renewal of Product Inventory

Given the very rapid performance evolution of machinery, tooling, and installations in economically developed countries, it is imperative that we constantly renew our products and gradually stop manufacturing those whose technical and operational specifications are obsolete. As can be seen from table 3, the average age of products in production is between 2 and 5.5 years. The general tendency is to align ourselves with the world-wide development trends: accelerated introduction of digital technology in general, and of process control using computer technology; standardization, miniaturization, and modularization of devices and equipment; increased reliability and dependability in operation; and reduced material and energy consumption.

Table 3. Age of products in manufacturing.

Product	Years
1. Standard components and systems for automatic measurement, control, and regulation of technical processes	5
2. Standard components and systems for automatic protection, signalling, blocking, and command	5.5
3. Control equipment for machine-tools and equipment	4
4. Process control equipment using computers and automatic data transmission	2

These are also the directions of the research being conducted to design the products of the next five-year plan. By achieving these goals, it is estimated that we will reduce the gap between us and advanced nations from approximately 10 years at present, to about 5 years by 1985. As shown by the evolution of production during the 1976-1980 period and by the provisions for the next five-year plan, the production of means of automation will satisfy the domestic demand for investments, production, exploitation, and exports, with importations continuing to drop from 13.5 percent in 1978, to 3.1 percent in 1985.

In keeping with world-wide trends, we are emphasizing the electronization of means of automation. New and modernized products will account for about two-thirds of the anticipated production. Among the groups of new products during the next five-year plan will be a digital control system with color cathode-ray tube display, for general industrial applications; high power controls in metallurgy and power generation; CNC numerical controllers; integrated control systems with process computers; specialized control devices and systems (for nuclear plants for instance); as well as others.

The variety of products and the production volume will be developed by introducing new technologies of high productivity and yield, which will assure a comparable level of product quality. Metal construction will be expanded by using standard sheet metal sizes (narrow and wide sheets). Mechanized and automation systems will be introduced to fabricate electronic components on boards. And for the superior utilization of raw materials and metals, as well as of products, we must take into consideration the following:

Product miniaturization by increasing the complexity of functions achieved with modules, using digital techniques and professional components (microprocessors, memories, MOS);

Transition to electronic switching in telecommunications;

Introduction of LSI automated process control systems using specialized process computers (minicomputers), operating in hierarchical systems, computer controlled industrial robots, and so on;

Continued standardization, with outstanding effects on the superior utilization of raw materials, by achieving greater modularization, higher reliability, and better flexibility by means of readily modifiable programs;

Increased exportation of automation equipment and systems as part of the delivery of complex technical installations;

Continued improvements in the quality and reliability of automation equipment and systems.

11,023
CSO: 2700

OIL, GAS EXPLORATIONS IN BLACK SEA

Bucharest STIINTA SI TEHNICA in Romanian Apr 80 pp 27,33

[Article by Eng Cecil Georgescu, General Geological Directorate of the Ministry of Mines, Petroleum and Geology: "The Oil of the Blue Continent"]

[Text] The geological study of the Romanian continental plateau of the Black Sea began in 1965 at the guidance of the Executive Committee of the Central Committee of the RCP and the personal guidance of comrade Nicolae Ceausescu. Thus the period of study of this new field coincides with the short time since the party and the people elected comrade Nicolae Ceausescu, the leader of the nation's destiny in building a socialist society.

As a result, work has been completed in respect to a program of actions covering the preparation for and execution of the first geological research and prospecting works within the Romanian continental plateau. The research began with the preparation of a study concerning evaluation of the prospects for finding useful mineral substances, including oil and gas. The first works were executed in 1966 and consisted of experimental seismometric prospecting and magnetometric prospecting with airborne equipment in the Danube delta and along the littoral zone. The conditions were assured for provision of the modern equipment and apparatus necessary for carrying out seismic prospecting and setting up a marine drilling rig. In the period 1969-1974, the seismic prospecting work was carried out, and in 1976 drilling for the first well was started.

Throughout this period, the secretary general of the party personally checked on the status of the preparations and research and arranged for more accentuated development of the technical-material base. In September of 1976, comrade Nicolae Ceausescu, accompanied by comrade Elena Ceausescu and other members of the state and party leadership, found themselves at sea on the "Gloria" marine drilling platform, where they inaugurated geological research activity through drilling into the Romanian continental plateau of the Black Sea with the first platform built and equipped in our country.

In the report to the Twelfth Congress of the RCP, comrade Nicolae Ceausescu mentioned that in order to expand Romania's raw materials and energy base: "There will be an expansion of research for oil and gas, deep-well drilling, as well as drilling on the continental shelf of the Black Sea. I should like to announce to the Congress that those who work on the first platform in the Black Sea have succeeded in finding new oil sources. I hope that they will be large enough that they can be industrially exploited and that this will help us in realizing the provisions of our plan to satisfy fully the requirements for fuel and energy, thus assuring our nation's independence from this point of view in the next decade."

Romanian Research in the Black Sea

Providing increasingly greater quantities of oil and gas needed by the national economy means that Romanian oil workers will have to make a continuous effort both to discover sources from which it is possible to obtain quantities of hydrocarbons and to prepare the technical-material conditions which will permit intensification of research for extraction of oil and gases at great depths and from zones with difficult working conditions, among which the Black Sea occupies a separate place.

Research and studies performed by Romanian petroleum geologists have led to the conclusion that favorable conditions exist within the Romanian continental shelf for the existence of accumulations of oil and gases. The verification of these conditions for the purpose of identifying the deposits implies execution of a succession of geological works which in principle are the same as those used in dry zones. A problem which appeared at the outset of research on the Romanian continental shelf of the Black Sea was the lack of conditions favorable to the existence of oil and oil or gas deposits in the dry zones along the Romanian coast. The presence of dry deposits along the coast, as, for example, in the southern part of the North Sea, along the coast of the Caspian Sea, or on the northern coast of the Gulf of Mexico, has the advantage of providing at the outset guidance concerning the principal directions of geological research.

Under the specific conditions of the Romanian continental shelf, through the programmed geological research activity, as well as through the methods used, it was necessary within a relatively short time to identify the principal geological characteristics and the possibilities for a link between the structural units known on land with those which entered into the composition of the continental shelf. In the first stage, geological studies were made within which, on the basis of known geological data and information regarding zones adjacent to the land, a "geological model" was prepared as a working hypothesis. In order to integrate and verify this "model," geological prospecting and geological research drilling works were programmed.

In the second stage, the geophysical prospecting was carried out using magnetometric and seismometric methods. Interpretation of the data derived from the prospecting works, especially the seismometric prospecting, and corroboration of such data with information on the land zones made it possible to determine the best locations for this phase of knowledge in which to make geological drillings.

The seismometric prospecting was carried out with the aid of an adapted ship on which was installed modern apparatus for the production and registration of seismic waves.

The drilling was performed with a self-lifting type platform which took one year to build in Romania, in cooperation with the specialized company "Offshore." The entire drilling installation, the equipments and the related apparatus mounted on the platform were 90 percent designed and built by Romania. The drilling platform can operate in waters with a maximum depth of 94 meters. For drilling, they used an F 320 DE installation, built in the 1 May Enterprise in Ploiesti, which can drill to a depth of 6,000 meters. The installation consists of a pyramidal-shaped tower with a 350 ton load capacity at the hook, two drilling pumps of 1,600 horsepower and 350 atmospheres each, as well as a drive group with three direct current generators of 2,500 horsepower each and two alternating current generators of 1,200 horsepower each. This industrial complex, with a surface area of 2,000 square meters (50x40 meters), set on four steel pillars 50-90 meters above the sea bottom, showed very good resistance to waves of 6-8 meters height and winds up to 140 kilometers per hour. All the equipments, tools and devices with which the platform is equipped and also the spaces in which they are installed were provided with anti-explosive and anti-incendiary systems, as well as alarms for cases of failure. All of this guaranteed that the production process and the working personnel were protected with the best possible systems.

During the period September 1976 to December 1979, three drillings were made with depths ranging between 3,500 and 5,000 meters in sectors with water depths of 50 to 90 meters. The geological information obtained by the end of 1979, using all applied research methods, made it possible on a regional scale to decipher the principal characteristics of the geological formations which made up the continental shelf. In general terms, the probable structural relationships of the units in the continental shelf with those in the land zone were determined and it was possible to reach a higher phase of geological interpretation of the results of the seismometric prospecting. However, the most important result achieved in this period is the discovery for the first time of oil in the Black Sea. This discovery constitutes a prestigious success of Romanian oil and drilling workers, who succeeded in producing evidence of oil accumulations in the third well they drilled in the Romanian continental shelf. The result constitutes a confirmation of the geological model developed by our specialists and a verification of the working hypothesis used as a basis for justification of the work to be performed by this new geological unit in the territory of the nation where oil and gas deposits were considered likely. The economic importance of this discovery will have to be more accurately defined by the drilling of other geological research wells, for which the drilling will commence shortly.

Recently, at the Galati Shipyard, the body of the second marine drilling platform, "Orizont," was launched into the water. The drilling installation and all of the equipment and apparatus necessary for this platform are then to be installed on it so as to transform it into the new working unit of the Constanta Marine Drilling Group within the Enterprise for Special Geological Works and Drilling. This platform will be located in new working areas so as to expedite the rate of geological research and the discovery of new accumulations of oil on the Romanian continental shelf of the Black Sea.

6010
CSO: 2700

ROMANIA

DECREE ON SAVING ELECTRICITY, HEAT, GAS AMENDED, REPUBLISHED

Bucharest BULETINUL OFICIAL in Romanian Part I, No 30, 8 Apr 80 pp 1-5

[Republication* of Council of State Decree No 283/1979 on the Setting of Measures for the Wise Management and Reduction of the Consumption of Electric Energy, Thermal Energy and Natural Gases]

[Text] In view of the accentuation of the world energy crisis and of the continuous increase in the prices of primary energy supplies in the international market, it is necessary to adopt measures to institute a stringent program of savings of electrical and thermal energy and of fuel, to insure rigorous discipline in that area, to eliminate all forms of waste and achieve better coordination between the price of fuel and electrical and thermal energy.

For a long period of time, the prices and tariffs for electricity for private use and for natural gas remained unchanged, although on the international level the prices of energy raw materials, especially oil, increased at a staggering pace: 11 times in 9 years.

The current low prices and tariffs for electrical and thermal power and natural gas had a negative influence on the consumers, in that it did not encourage them to utilize them rationally and to save the energy resources at their disposal.

In order to reduce the consumption of energy and gas to rational limits and to link the real cost of those resources to their prices, the Council of State of the Socialist Republic of Romania decrees:

---

*Republication on the basis of Article II of Council of State Decree No 103 of 2 April 1980, published in BULETINUL OFICIAL Part I, No 29 of 4 April, with new numbers given to the articles. By this decree, paragraph 1, letter a) of Article 14 was amended and articles 15, 20-27 were added. Council of State Decree No 283 of 30 July 1979 was published in BULETINUL OFICIAL No 67 of 21 July 1979.

Chapter I

Measures To Regulate and Ration the Consumption of Electrical and Thermal Energy

Article 1. On the date of the present decree, electrical and thermal energy consumption norms are established for public lighting and heating and of offices and other administrative facilities of state, cooperative and public institutions and units, and of commercial and public catering units, for all the counties and for the Bucharest Municipality, in accordance with the annex to the present decree.*

Differentiated consumption norms are established for the counties and Bucharest Municipality for winter and summer conditions; those norms shall be revised annually by State Council decree, together with the endorsement of the single national plan of socioeconomic development.

Article 2. The ministries, other central bodies, executive committees of the people's councils of the counties and of Bucharest Municipality and all socialist units will take measures to reduce consumption, utilize fuel, and electrical and thermal energy rationally, eliminate waste and losses, and strictly implement the consumption norms established under the provisions of the present decree.

By 1 September 1979, the bodies listed in paragraph 1 will forward suggestions to ration and reduce consumption of fuel and energy in production activities.

Article 3. The ministries, other central bodies, the executive committees of the people's councils of the counties and of Bucharest Municipality and the collective leaderships of all the socialist state, cooperative and public units are obligated to take measures to reduce the consumption of electrical power in offices and other administrative facilities by at least 40 percent compared to 1978 consumption levels.

All central and local bodies and state, cooperative and public units will adapt their work schedule so that the activities of working personnel are carried out in natural light conditions.

Article 4. The socialist economic units working on the basis of a single shift will change their program so as to make use of natural light conditions as much as possible.

Economic units working in 2 or 3 shifts will limit lighting and heating to those work places which absolutely require it for their activities.

---

*The annex has been transmitted to the institutions concerned.

Article 5. It is forbidden to light or heat the buildings of socialist state, cooperative and public units outside the work hours, with the exception of guard and service facilities and those housing certain installations.

Working personnel are not allowed to use any energy-consuming personal equipment on the premises of the socialist units employing them.

Article 6. The Ministry of Domestic Trade, the Ministry of Tourism and the executive committees of the people's councils of the counties and of Bucharest Municipality will establish work schedules for commercial and public catering units so as to take advantage of natural light conditions and to reduce the consumption of electrical power by at least 40 percent compared to 1978 consumption levels.

Article 7. The heating temperature in industrial bays and other closed production facilities is limited to a maximum of 16 degrees Celsius and to a maximum of 18 degrees Celsius in offices and other administrative facilities.

Article 8. The executive committees and bureaus of county, municipal and city people's councils will take measures to reduce the consumption of electricity for public lighting by at least 30 percent compared with 1978 consumption levels, to utilize the resources of thermal and electrical power rationally, and to implement the consumption norms established for each county and for Bucharest Municipality.

Of the amounts saved above and beyond the consumption norms, after the reductions envisaged in paragraph 1, 50 percent can be utilized, within the same year, for colder periods or other special situations.

Article 9. The Ministry of Electric Power, together with the executive committees of the people's councils of the counties and of Bucharest Municipality will take measures to expand urban district heating by connecting additional consumers to existing installations in order to replace heating installations, which require large amounts of fuel, and expand the use of coal and other new sources of energy.

Article 10. The ministries, other central bodies, scientific research and technical engineering units, and the centrals and enterprises are obligated to redesign heating installations, tanks and equipment run by electricity, thermal energy or natural gas, in order to reduce energy and fuel consumption and increase the rate of utilization of these installations.

The Ministry of the Machine-Building Industry will take measures to redesign, standardize and manufacture only household appliances with a low rate of energy consumption. Household appliances which consume a great deal of energy will be taken out of production.

Chapter II

Prices and Tariffs

Article 11. All citizens are dutybound to eliminate all forms of waste of natural gas and electric and thermal energy, to endeavor to reduce consumption by at least 20 percent compared to 1978, and thus to contribute to the general efforts to meet the energy requirements of the entire country.

In view of the legal provisions which govern housing rights in relation to the number of persons in a family, prices and tariffs for electricity, thermal power and natural gas are established in a differentiated manner and at a rational level of consumption determined by the number of persons in a family and the size of the apartment.

Should that rate of consumption be exceeded, an increased price or tariff will be applied.

Article 12. The heating temperature in living quarters and other rooms is limited to a maximum of 18 degrees Celsius.

Article 13. As of 1 August 1979, the prices of electricity, thermal power and natural gas supplied to the citizens are set as follows:

I. For electricity

1. The following tariffs apply to household lighting and consumption:

	KWH Annually			
	0.55 lei/KWH		0.65 lei/KWH	
Type of Apartment (family size)	Urban up to	Rural up to	Urban from-to	Rural from-to
1-room apartment (1-2 persons)	500	350	500-550	350-385
2-room apartment (2-3 persons)	750	470	750-825	470-520
3-room apartment (3-4 persons)	820	550	820-900	550-605
4-room apartment (4-5 persons)	975	650	975-1,075	650-715
5-room apartment (5-6 persons)	1,025	725	1,025-1,125	725-800

	KWH Annually			
	0.75 lei/KWH		0.90 lei/KWH	
Type of Apartment (family size)	Urban from-to	Rural from-to	Urban in excess of:	Rural in excess of:
1-room apartment (1-2 persons)	550-600	385-420	600	420
2-room apartment (2-3 persons)	825-900	520-570	900	570
3-room apartment (3-4 persons)	900-980	605-660	980	660
4-room apartment (4-5 persons)	1,075-1,175	715-780	1,175	780
5-room apartment (5-6 persons)	1,125-1,225	800-875	1,225	875

2. A tariff of 0.55 lei/KWH for a consumption of 120 KWH/month is established for electric cookers.

3. A uniform tariff of 0.58 lei/KWH is applied to electricity used for common utilities in apartment houses (lighting, staircase, elevators, house water-supply plant, laundries).

II. Thermal Energy

1. A tariff of 80 lei/g. cal. is applied to thermal power produced for district heating by thermo-electric plants.

2. Tariffs for thermal power produced by thermal plants subordinated to the people's councils of the counties and of Bucharest Municipality are established by the executive committees of the people's councils on the basis of the corrected prices reflecting the new fuel prices, with a profitability of up to 3 percent.

III. Natural Gas

The following prices are established:

1. The following prices are set for natural gas supplied for apartments heated by stoves or individual heating and for cooking:

	Cubic Meters Annually	
Type of Apartment (family size)	350 lei/1,000 cubic meters up to	400 lei/1,000 cubic meters from-to
1-room apartment (1-2 persons)	1,155	1,155-1,270
2-room apartment (2-3 persons)	1,835	1,835-2,020
3-room apartment (3-4 persons)	2,275	2,275-2,500
4-room apartment (4-5 persons)	2,675	2,675-2,940
5-room apartment (5-6 persons)	3,205	3,205-3,528

	Cubic Meters Annually	
Type of Apartment (family size)	450 lei/1,000 cubic meters from-to	600 lei/1,000 cubic meters in excess of
1-room apartment (1-2 persons)	1,270-1,385	1,385
2-room apartment (2-3 persons)	2,020-2,205	2,205
3-room apartment (3-4 persons)	2,500-2,730	2,730
4-room apartment (4-5 persons)	2,940-3,210	3,210
5-room apartment (5-6 persons)	3,525-3,845	3,845

2. For natural gas delivered for cooking purposes to apartments provided with central heating, or heating based on another fuel:

	Cubic Meters Annually	
Size of Family	350 lei/1,000 cubic meters up to	400 lei/1,000 cubic meters from-to
1-2 persons	210	210-230
3 persons	280	280-310
4 persons	310	310-340
5 persons	345	345-380
Over 5 persons	375	375-415

	Cubic Meters Annually	
Size of Family	450 lei/1,000 cubic meters from-to	600 lei/1,000 cubic meters in excess of
1-2 persons	230-250	250
3 persons	310-340	340
4 persons	340-370	370
5 persons	380-415	415
Over 5 persons	415-450	450

3. For natural gas supplied to neighborhood power plants and for common utilities in apartment houses the price is set at 372 lei/1,000 cubic meters.

Chapter III

Measures To Compensate for the Price and Tariff Increases

Article 14. To compensate for the increases in prices and tariffs for the regulated consumption rate of electricity, thermal power and natural gas, and in order to insure the 30-32 percent increase in real remuneration, the following measures are established.

a) As of 1 August 1979, the profit-sharing or annual bonus fund for the entire working personnel is increased by an amount, calculated monthly, determined in accordance with the number of dependent children, as follows:

Working Cadre	Plants with liquid, solid or mixed (liquid plus gas) fuel lei per month	Plants with natural gases; gas stoves; thermofication lei per month	Stoves with other fuels lei per month
--without children	25	10	15
--with 1 child	50	15	20
--with 2 and 3 children	60	20	30
--with 4 and 5 children	80	25	35
--with 6 or more children	100	30	45

Those amounts will be paid at the end of the year, together with the granting of person's share of profits or annual bonuses.

For that purpose, the profit-sharing and annual bonus fund is increased by 2,180 million lei per year, and by 908 million lei for the remaining 5 months of 1979.

b) As of 1 August 1979, state social security pensions, military pensions, pensions for war invalids, widows and orphans which do not exceed 2,500 lei per month are increased by 15 lei a month, aside from the increase envisaged for the second stage [of income increases]. The total amount of these increases per year is 324 million lei.

Article 15. The payment for thermal energy necessary for heating dwellings and for preparing hot water for households will be made, as a rule, on a monthly basis, in accordance with the quantities used.

At the request of the tenants' associations, the payment for thermal energy for the winter period can be stretched out over the other months of the year.

Article 16. Within 30 days of the date of the present decree, the State Planning Committee, the Ministry of Finance and the Ministry of Labor will forward suggestions for amending the economic and financial indexes, as well as the volume and structure of the state budget for 1979-80.

Article 17. The ministries, other central and local bodies, centrals, enterprises and all economic units are obligated to implement to the letter the provisions of the present decree, to continually improve technologies, to update or replace installations which consume great amounts of energy, to increase productivity and to insure appropriate maintenance and exploitation of the machines, equipment and installations, with a view to reducing fuel and energy consumption, eliminating all waste, recovering and using all energy resources, and strictly implementing the approved consumption norms.

Efforts will be intensified in the area of geology and the extractive industry to identify new deposits, especially of coal, oil and natural gas, and to rationally exploit and better utilize the known ones, in order to continuously expand the country's supplies of raw materials.

Article 18. The Ministry of Electric Power and the people's councils will insure the appropriate operation of electric and thermal power supply units and of the transport and distribution networks, in order to enhance fuel utilization efficiency, insure rational consumption, eliminate energy losses and secure appropriate supplies for all the economic units and other consumers, implementing the norms established.

Article 19. The councils of working people will take resolute steps to fulfill all the tasks and measures required for the complete implementation of the provisions of the present decree.

At the same time, they will pool the efforts of all the working people, so that they, as producers and owners of the means of production, will fulfill production tasks while recording the lowest possible consumption of raw and other materials, fuel and energy, and so that they will actively participate in rationally managing the material and financial means entrusted to their administration by society, and increase economic efficiency, so that each socialist unit can increase its contribution to fulfilling the provisions of the single national plan of socioeconomic development and thus fulfill the party program on raising the people's living standard.

Article 20. The Ministry of Technical-Material Supply and Control of the Management of Fixed Assets, together with the Committee for People's Councils Problems will establish, by 30 April 1980, the maximum norms for consumption of fuels for heating dwellings and for preparation of hot water for households, taking into consideration the interior temperature system regulated by law, the production set for the heating installations and the climate zones in which the localities are situated.

The maximum norms for the consumption of fuels are set annually, according to apartment types, and are spread out monthly, for the following periods:

a) December--February;
b) April--September;
c) March, October--November.

The maximum norms for consumption of fuels will be posted in the enterprises of communal economy and in each tenants' association.

Article 21. The Committee for People's Councils Problems and the executive committees of the people's councils of the counties and of Bucharest Municipality, with the involvement of all the tenants' and citizens' associations, will take measures so that a reserve of fuels to be used in the winter months will be established from the savings achieved in the warm months of the year, compared to the maximum norm for consumption.

Article 22. The Ministry of Technical-Material Supply and Control of the Management of Fixed Assets, the Committee for People's Councils Problems and the executive committees of the people's councils of the counties and of Bucharest Municipality will take measures so that the maximum normed consumption of fuels, set by law, is not exceeded.

The delivery of fuels above the maximum normed consumption is prohibited.

The Committee for People's Councils Problems, together with the executive committees of the people's councils of the counties and of Bucharest Municipality, are obliged to take measures to economize on personnel and reduce to a minimum other expenses incurred in using the thermoelectric power plants.

In the case of the exceeding of the maximum normed consumption, including the reserve established for the summer period, and of the normed costs, the supplementary expenses will be borne by the personnel of the thermoelectric power plants, of the enterprises and units which use them, as well as by the management cadres in the people's councils, in proportion to the responsibility of each one as established under the conditions of the law.

Article 23. The State Planning Committee, the Ministry for Technical-Material Supply and Control of the Management of Fixed Assets, the Ministry of Electric Power, the Committee for People's Councils Problems and the Ministry of the Machine-Building Industry will work out, within 30 days of the date of the present decree,* a program of measures for the extension of the system of heating through thermification plants, for the limitation of plants which operate on liquid fuel, for increasing the productivity of installations in the thermal and thermoelectric power plants, for eliminating deficiencies in the maintenance and use of boilers, and thermal networks, for the replacement of installations with high consumption and for the concentration of small centrals in large centrals.

---

*Article 23 is inserted in accordance with Council of State Decree No 103 of 2 April 1980, therefore, the deadline will be calculated from this date.

Also, measures will be stipulated for the gradual transition to coal in power plants which currently operate on hydrocarbons.

Article 24. The State Planning Committee, the Ministry of Technical-Material Supply and Control of the Management of Fixed Assets and the Ministry of Electric Power will take measures so that all new plants for the production of electric energy will be constructed with electric thermofication plants, aiming at the production of electric and thermal energy.

The existing thermoelectric power plants using coal which operate by condensation will be gradually adapted for the production of electric and thermal energy for consumers that can utilize the thermal energy supplied by these plants.

Article 25. The Ministry of the Machine-Building Industry will assimilate in fabrication and will produce the necessary quantities of meters to measure the consumption of thermal energy in the housing blocks and will implement the entire program stipulated for the production of high-efficiency boilers and regulating apparatus.

Article 26. The executive committees of the people's councils of the counties and of Bucharest Municipality will take measures, during the summer, to carry out maintenance and repair work on the thermal power plants and the networks for the distribution of thermal energy, with a view to providing the optimum outputs, reducing consumption of fuels, eliminating waste of all types and making the plants adhere strictly to the approved norms of consumption, as well as for the good service and supply of the population with thermal energy.

Article 27. The Central Council of Worker Control of Economic and Social Activity will exercise a permanent control over the maintenance and use of installations for the production and distribution of thermal energy, the achievement of the outputs stipulated for these installations, their integration in the normed consumptions, and the application of the programs and measures stipulated in the present decree.

CSO: 2700

ROMANIA

NEW PROCEDURE FOR MAKING CONCRETE DISCUSSED

Bucharest STIINTA SI TEHNICA in Romanian Apr 80 pp 14-15

[Article by Valeria Ichim: "Black Pyramids in the Economic Circuit"]

[Text] The Ministry of Forestry and Construction Materials informed us that at the present time electric filter ashes (dry) are used as an additive in the grinding of cement or as a raw material in the fabrication of bricks, large panels, or cellular cement. It is planned to use about 390,000 tons of ashes this year alone for the above-mentioned purposes.

A new procedure, patented and proposed for application by Prof Dr Eng Nicolae Voina of the Bucharest Construction Institute will increase the uses of electric filter ashes. What are we talking about?

On 6 Mar 73, the State Office for Inventions and Trade Marks issued registration number 58 206 for the invention of Professor Nicolae Voina concerning a new procedure for making concrete products. As mentioned in the "Description of Patent," the invention refers to: a procedure for making concrete products with a non-cement binder.

In view of their aluminum-silicon character, thermoelectric power plant ashes have a low chemical base level, a low activity index and a latent hydraulic hardening. Binders made from ashes have long hardening times even with high dosages of ashes (over 20 percent) and they reduce mechanical resistance. These disadvantages can be eliminated through the procedure developed by Professor Voina, that is, the use of a binder made of a paste from thermoelectric power plant ashes. Activated, then mixed in the concrete mixer, "the paste is poured into moulds, compacted by vibration, and then subjected to treatment in a high frequency field where rapid hardening and advanced hydration take place, along with the formation of calcium hydrosulfoaluminates, hydroaluminates and hydrosilicates." It is possible to obtain concrete products with increased durability and mechanical resistance using an ash paste prepared according to specific formulas which determine the optimum content of calcium oxide and sulfate and sodium hydroxide. The preparation takes place in mixers or in concrete mixers, with the homogenization lasting 2-4 minutes.

After preparation of the paste, the necessary aggregates (sand, gravel, etc.) are introduced into the mixer in dosages dependent upon the type of concrete desired. After 2-3 minutes, the resulting mixture is poured into formwork made of dielectric material and equipped with a water-tight seal system. The mixture is then vibrated for 1-2 minutes, after which it is treated in a high frequency field where the rapid hardening and advanced hydration take place.

In the "Description of Patent," mention is also made of the advantages of applying the new procedure: full utilization of the reserves of thermoelectric power plant ashes, in-depth hydration of the ash granules, efficient utilization of the binder potential of ashes (which leads to the increase in the mechanical resistances), acceleration of the hydration and hardening of the calcium hydrosulfoaluminates and hydroaluminates, and assurance of their dispersion in the structure of the concrete, as well as shortening the prefabrication cycle.

The procedure for obtaining products from concrete without cement through treatment in a high frequency field was patented by ROMINVENT in Austria, West Germany, the DDR, France and other countries as early as 1974.

In view of the newness of the procedure as well as the estimated economic effects -- among which, not to be overlooked, is the reduction of energy consumption incorporated -- the invention patented under No 58 206 deserves special attention today. It is natural therefore for us to ask: What has happened with this invention and what do users or possible users think of it?

Is Professor Nicolae Voina's Procedure Approved or Not?

Let me first give you the words of the inventor.

"Following intensive laboratory research, the collective which I head (at present very limited in size -- assistant engineer Ion Robu and engineer Victor Balica) is in the process of developing some new technologies whose application will lead to improved utilization of such secondary materials as metallurgical slag, mine waste, and thermoelectric power plant ahses (wet and dry). Because of their chemical and metallurgical composition, our thermoelectric power plan ashes are suited for overall and we can even say full utilization. Using certain procedures, it is possible to extract iron oxides and alumina from these ashes. What then remains is a sub-sub industrial product which can be used efficiently in the construction materials field. I should mention that after extracting the iron oxides and alumina the specific qualities of the ashes are unexpectedly improved. The new aspect represented by our procedure, which was patented in 1973, is the fact that we obtain a vast range of construction materials of the non-cement concrete type at about 40-60 percent less in terms of cost and energy incorporated. And this is in the first stage, without having to optimize and exploit all the valences of the new procedure. Laboratory studies, also confirmed by pilot station experiments, are creating possibilities for obtaining such non-cement concrete products as: masonry elements, substitutes for ceramic blocks and BCA [expansion unknown], slabs for irrigation and stream control, glass-fiber reinforced prefabricated products, special refractory and anti-acid products, and other elements for civil and agrozootechnical constructions, road construction, hydrotechnical construction, etc."

Professor Nicolae Voina mentioned a pilot station. Indeed, after long delays, through the goodwill of the Ministry of Agriculture and the Food Industry the Department of Land Improvements built a pilot station in the commune of Curcani. In passing, it should be mentioned that some deviations from the design led to some troubles during the time the new procedure was being tested in November, 1979. An experimental lot of slabs was produced at Curcani for irrigation projects. With the aid of this experimental lot it was planned to obtain data concerning the quality of the non-cement concrete and the technical-economic effectiveness of the procedure. "This was conceived," Prof N. Voina told us, "in such a way that it was possible to concentrate in 3-4 technological phases the 32 operations specific to fabrication of cement, which was completely replaced by ashes and an activator -- lime. The chemical reactions and the physical processes which give the resistance and durability to the new type of concrete are based on other mechanisms than those known. The chemical processes are totally changed from the standpoint of kinetics; temperature and pressure are no longer determining factors in formation of the structures of the new products. Multiple convergent effects appear, the result of which brings about a shortening of the duration of the fabrication process, low energy consumption, improved utilization of raw materials, and improved utilization of recoverable materials. The demonstration at Curcani showed that with a simple procedure and limited investments it is possible to obtain spectacular results, results which have surprised some specialists, while others have already manifested interest."

Indeed, while some specialists were "surprised" by the test at Curcani, several others considered it a publicity campaign; however, a larger number of specialists, suspecting a breakthrough and economic effectiveness, took it seriously.

Engineer Ion Marinescu, deputy director of the State Office for Inventions and Trademarks, said: "We participated in the demonstration at Curcani, and Professor Voina's solution has been known to us for some time. I have expressed my opinion and I have granted the invention patent. However, I feel that the procedure has limited applicability since it is efficient only in the case of low constructions and only in proximity to thermoelectric power plants, for an area of 25-30 kilometers. Under the present conditions, the solution will have to be analyzed in comparison with other energy "consuming" methods. If its utility and effectiveness are proved, it will certainly be approved."

Engineer Vasile Scriptat, director of the Technical Directorate of the Ministry of Mines, Petroleum and Geology, said: "I know the procedure proposed by Professor N. Voina in 1975. In joint agreement with the Ministry of Forestry and Construction Materials, based on the desire to approve the procedure and the products realized, as early as 1976 I asked Professor Voina for his study, his conclusions, and his post-calculated technical-economic effectiveness. However, Professor Voina was the only member of the research collective. He later asked us and the Ministry of Education and Instruction for support. He received personnel, space and equipment."

(Editor's note: At the end of March, 1980, when we completed the documentation, we found two specialists -- Engineers Robu and Balica -- an office area which had suffered slight flooding, and a 5 kilowatt generator, all of which constituted, as you will see, the "Hammer of Pepelea")[Note: Giving someone an amount of something ostensibly to help them, but in actuality only enough to ensure their failure].

"After the testing at Curcani, on 29 Feb 80 we received an efficiency study written by the chief of the research collective, Prof Dr Eng Nicolae Voina. This had to then be submitted for approval by the responsible organs: the Ministry of Forestry and Construction Materials, the Ministry of Agriculture and the Food Industry, the Ministry of the Machine Building Industry, the Ministry of Electric Power, and the Central Institute for Construction Research, Design and Direction. I estimate that the approval will be issued toward the end of March. In respect to the economic effectiveness -- more precisely, the consumption of energy incorporated -- I do not wish to engage in a dispute with the author and I will leave it to the Ministry of Forestry and Construction Materials, the beneficiary, to elucidate this problem."

Engineer Ion Vasilescu, director of the Technical Directorate within the Ministry of Forestry and Construction Materials, said: "Replacement of cement with ashes and lime is a technology that we have known about and applied for about 15 years at Doicesti for fabrication of cellular concrete. This technology we have used involves a thermal treatment made in autoclaves with steam under pressure or hot air."

"It is here, however, that the patent of Professor Voina introduces something new: treatment in a high frequency field. This presupposes a low consumption of energy and, owing to the molecular reorientation, transformation of the ashes into an active material, that is, its participation (together with the lime) in the chemical process that practically speaking is involved in the concrete hardening. Through treatment in a high frequency field, the author expects to shorten the fabrication cycle and to economize binder materials."

"We have planned in 1980 to introduce into the economic circuit about 223,000 tons of ashes. In 1985, dry ashes will have to be used completely, that is, about 800,000 tons. At the present time, we are studying various possibilities also for introduction into the economic circuit of wet (waste) ashes. Technological solutions already exist for utilization of thermoelectric power plant ashes. One example is, as I said before, Doicesti. Another solution would be welcome and, of course, worth approving, but only after technical-economic justification, that is, after we are convinced of the efficiency of the procedure proposed."

Thus, no one has anything against approval. It is only that approval of a product is made after this product was produced in the laboratory and in a pilot station, after which the test bulletins, the technical standard draft and many other documents are prepared, none of which could be prepared within a useful time by a collective as limited as in this case.

It will therefore be necessary as urgently as possible to produce the non-cement concrete product using ashes as a binder and high frequency field treatment. However, in order to create this field a generator not of 5 kilowatts, but 10-20 times more powerful is needed. But such generators are not produced in Romania.

The Curcani testing was carried out under improper conditions with two 5 kilowatt generators, which led to inconclusive results, as was pointed out by a note of the General Economic Directorate of Land Improvement.

I was also interested in finding out the opinion of the patent sponsor, in this case, the Institute of Hydroelectric Power Design and Studies in Bucharest. This was not possible. That is because this institute is not or does not wish to be the patent sponsor. At the present time, it still is not known officially whether some other organization has become the patent sponsor. I found, however, after talking with Prof Dr Eng Stelian Dorobantu, chief of the Faculty for Roads and Construction Materials in the Bucharest Construction Institute, that this research had been moved to under the administration of the faculty which he heads.

In closing, here are the words of Prof Stelian Dorobantu: "At the present time, in our construction materials testing laboratory they are making tests to optimize the formulas for fabrication of the new concrete, as well as the high frequency field treatment, with the hope of having the Bucharest Constructions Institute put another pilot station into operation. In about three months, we hope to develop the formulas to the point where we can on a repeated basis obtain the same concrete characteristics. In this way, we will also be able to determine with precision the necessary generator power. If we use ashes from Isalnita or Rovinari and lime from Cimpulung and Alesd, I am convinced that we will obtain concretes from mark 70 up to 130, with an incorporated energy consumption that is about 30 percent lower than the present consumption for BCA. In our experiments, we will use the two existing 5 kilowatt generators. If greater power capacity is needed, we will appeal to the Polytechnical Institute or the Electrical Engineering Research Institute to see if it isn't possible to obtain a capacitative transformer from an inductive one or if from two worn out [illegible] kilowatt transformers we can't get one good one. We will take all of the necessary costs into consideration and it might turn out that the cost reduction for a cubic meter of concrete made from ashes won't be 40-50 percent, but only 8-10 percent. Even under these conditions, it will be worth testing the new procedure since it has three advantages which are difficult to contest (or ignore): 1) it doesn't use cement (it takes 630 kilowatt hours for a ton of cement, while a ton of lime takes only 60 kilowatt hours); 2) The consumption of energy incorporated is still reduced by about 15 percent; and 3) we add new uses for dry ashes -- possibly by expanding the studies -- and waste ashes."

I agree with the opinion of Professor Dorobantu in connection with the advantages of the procedure and, thanking those who were kind enought to respond to our questions, I promise to return to this subject in a few months.

6010
CSO: 2700

ROMANIA

NEED TO INCREASE PROFITABILITY IN AGRICULTURAL UNITS

Bucharest REVISTA ECONOMICA in Romanian No 21, 23 May 80 pp 8, 9, 17

[Article by Oprea Parpala]

[Text] Economic Significance of Better Product Quality

An even brief survey of the economic-financial activity in agricultural cooperatives spotlights the quality of agricultural products as a leading factor of output profitability. This is logical because better product quality is one of the direct results of the measures to accelerate the process of intensive farming.

The effect of sensible utilization of the supplemental resources earmarked for intensive farming is reflected not only in the higher yield -- per hectare or per animal -- but also in the better quality of the product obtained, which is synthetically translated -- irrespective of the diversity of the criteria for assessment -- by the product's capacity to better meet the consumption needs. In correlation with the amount of the physical efficiency, quality is expressed by the quantity of useful substance (gluten, protein, oil, starch, sugar, and so on) which is obtained for every unit of surface. Consequently, the improvement in the quality of agricultural products is of major social significance because for an identical unit of surface a greater volume of useful substance is obtained.

Better quality of products, a result of more intensive farming, however, also involves greater expenses for each unit of surface for rigid use of modern techniques, which permit the obtaining of products of higher quality. Moreover, under the price system, the state provides material incentives for agricultural units in obtaining superior products. By the percentage increase to the basic price, granted to the output that meets the quality requirements specified (for instance for grain), by the conversion of all the output into output which meets the standards (for cow's milk, according to the fat level) or by direct differentiation of the price depending on the quality of the product (such as for vegetables or meat for all species of animals), the state aims to provide material incentives to cooperatives in upgrading the quality of the output, for better meeting the consumption needs, tastes and preferences of consumers.

In terms of needs for increasing the profitability of the activity of all agricultural cooperatives, better quality offers the paramount advantage which involves the fact that, as a rule, the price increase obtained for a superior product exceeds the extra expenses required for attaining a higher level of quality. Hence, the improvement in the quality of agricultural products directly helps to obtain supplemental profits.

The extended practice of agricultural cooperatives in our country highlights the dynamic and, in some cases, even determining role of output quality in making these units profitable and in increasing their profitability. The overall conclusion which emanates from the analysis of the economic-financial activity of agricultural cooperatives is that for all agricultural products the average price for production per unit of product is greater in the group of profitable cooperatives than in the group of nonprofitable cooperatives. In light of the profit obtained per unit of product by profitable cooperatives, this price difference ranges between 10 percent and 20 percent for wheat, barley, sugar beet and winter tomatoes, between 20 percent and 30 percent for corn (kernels), soybean, pork and wool, between 30 percent and 50 percent for tobacco, winter potatoes and cow's milk, between 50 and 80 percent for hemp, sunflower, flaxseed for oil and meat of junior cattle, more than 80 percent for meat of adult cattle and flax for fiber.

Even if we take into consideration the impact of other contributing factors in setting the selling price, such as the amount sold, the marketing season and so forth, still outstanding is the major effect of product quality on the profitability level of the entire output -- specifically because for the products for which the price difference exceeds 50 percent of the profit per unit of product obtained by profitable units, the influence of quality on profitability is a determining factor.

Naturally, the following question is imperative: What should be done to obtain superior products, whose marketing would provide extra incomes, as sources for increasing profitability and increasingly greater expansion?

There is only one overall approach, which is known and accessible to every cooperative: quicker intensification of production, on a multilateral basis, and, specifically, upgrading of the organization of production, self-management and self-direction. As stated above, for almost all farm products, in the group of profitable units (that also obtain a higher average price of production per unit of product) the cost of production per unit of surface or per animal is higher than that in the group of nonprofitable units. Hence, there is a direct link between the level of production costs per hectare or per animal and the quality of production, reflected in the level of the average price of production, thateven decisively influences the profitability of the agricultural production cooperative.

But it is important not only to know that one must make expenses but especially when and how to make the production expenses. Here are only a few examples: the expenses for land preparation and for planting may be approximately equal, but the quality of the product obtained will depend decisively on performing the planting during the period which is best suited for the zone involved. This also applies to the cases of late harvesting for wheat and even for corn (kernels), when depreciation of production adds to quantitative loss. Or, for an approximately equal level of production expenditure per hectare, the quality of output will depend on the qualitative features of the strain or hybrid used or even on the quality of the seed used. The same statement applies to the sectors of animal husbandry, especially to those which provide meat, where the quality of production depends on the features of the breed or the animal lineages used. But all these are problems which -- in addition to an overall guideline -- require local solutions, in light of the characteristics of each zone, of each cooperative and, especially, in light of the self-management ability of the leading body. Therefore, with good reason, we may state that the improvement in the quality of agricultural products dovetails with the improvement in the activity of production, because we must remember one thing: though the quality of output asserts itself in the marketing process, it is obtained in the production process.

But in the new context of development of our agriculture, the production process in agricultural cooperatives acquires new facets: agricultural activity is coupled with industrial activity and services. This combination generates new sources for increasing profitability.

Integration of Activities Results in Better Use of Resources and Higher Profitability

The better use of all the production resources in agriculture necessitates the complete integration of agricultural production with industrial activities and services.

The organization of industrial activity in villages is of great social and economic importance. In the first place, production resources which result from agricultural activity or resources that cannot be utilized by agricultural activity are integrated into the production flow and put to good use. This applies to the activities for the industrial processing of agricultural raw materials or nonagricultural resources. Their input into increasing the national wealth is amplified by the avoidance of specific loss or qualitative depreciation of raw materials which, when processed at the point of production, are included in the food or productive consumption of the population and help to upgrade the supply system.

In the second place, these activities prove to provide the context for better utilization of the significant resources of manpower in many agricultural production cooperatives. Primarily, they assure the better utilization of the work force during the year, one which is more complete -- by the involvement of new contingents into this area, and more uniform -- precisely because the industrial enterprises with seasonal activities eliminate the "off-seasons" in agricultural activity. In the final analysis, labor productivity in these activities -- assessed in light of the overall output and, especially, of net output -- is greater than that in agricultural production. The actual situation for all agricultural cooperatives is as follows: compared to agricultural activity, the overall output per conventional norm is 46 percent greater in industrial activities and 70.5 percent greater in the area of services, and net output is 143 percent and 128.5 percent greater respectively. In this context, the expansion of industrial activities and services in rural areas would result in greater productive force of labor.

The change in the relation between materials expenditure and net output, in favor of the latter, is a first result of the better utilization of the work force in this area of economic activity. For instance, while each 100 lei of overall agricultural output yields 33 lei of net output, in the area of services this level goes up to 52 lei and reaches 65 lei in the area of industrial activities. Hence, while participating in the formation of overall output with only 6 percent, the industrial activities and services participate in the formation of net output at a rate of almost 10 percent. Consequently, even in this stage of integration of agricultural production with industrial activities and services, each tenth leu of net output derives from these activities. Moreover, the high capacity for producing a new value (namely net output), one which is superior -- precisely because of the utilization of local and inexpensive resources -- lends special dynamism to these activities in terms of increasing the profitability of all agricultural production cooperatives.

That is why, within the framework of the unified state and cooperative agroindustrial council -- as an integrated unit -- there will be an expansion of industrialization and semi-industrialization programs involving agricultural products from the units under the jurisdiction of the council, by the creation of adequately sized facilities. Likewise, measures will be taken to turn out combined fodder for milling or other processing activities, for the purpose of putting to good use the existing resources, in light of the characteristics of the production zone.

For local expansion projects or for completion of facilities under the investment plan of the units on the territory involved, the unified agroindustrial councils will structure the construction program, which will involve workers from state agricultural units and members of agricultural production cooperatives.

Association, New Setting for Wiser Self-Management of Resources and Greater Profits

In this stage of development of the productive forces in agriculture, the sensible utilization of these forces in order to increase the profitability of production necessitates the association between agricultural cooperatives and between these units and state units and units of the consumer cooperative system, in the entire integrated activity which unfolds in agricultural cooperatives.

The best use of land resources, of the technical facilities and of manpower in agricultural cooperatives, for the purpose of making all the cooperatives profitable and increasing the profitability of agricultural production depends on the intensification of integration in agriculture. Therefore, the above-mentioned association in agricultural production, in the processing and better utilization of this production, and in the area of industrial activities, of completion of construction projects and services is a matter of great economic importance.

Association corresponds to the current stage of the development of productive forces in the overall economy and to the greater requirements on an immediate and long-range basis with which agriculture is confronted, for the purpose of achieving a qualitative leap in all the economic-financial activity of agricultural production cooperatives.

Association in production encourages the concentration of production, with all the economic and financial advantages involved. The joining of the material, productive, and financial forces of several cooperatives under the jurisdiction of one unified agroindustrial council permits the organization of larger enterprises and production branches which facilitate the use of modern techniques and technology on a wider scale. It is significant that, on the average an agricultural economic association receives fixed assets valued at more than 11.2 million lei, that is about 40 percent more than an agricultural production coperative owns on an average. By the end of 1978, each specialized intercooperative economic association concentrated a head of 1,990 cattle or 20,873 hogs, or 8,912 sheep, or 133,598 fowls.

In this context, naturally, for many categories of animals the yield is higher and profitability is higher than that in agricultural production cooperatives. Let us use one example which seems to us to be very illustrative: raising milch cows. In comparison to an annual average yield of 1393 liters per foddered cow that were obtained by agricultural cooperatives, the intercooperative economic associations obtained 2843 liters. Out of the 61 intercooperative economic associations which raise milch cows, 13 obtained an annual average yield (per foddered cow) which ranged between 3000-4000 liters and another eight obtained more than 4000 liters. In this context, 20 associations produced milk at a cost below 200 lei per hectoliter. Hence, if on the overall scale of agricultural cooperatives, the output of cow's milk is unprofitable, in the context of all intercooperative economic associations it produces profits.

Moreover, other livestock products can be used as examples, with the higher efficiency of production in intercooperative economic associations being outstanding in all cases. However, we can equally point out great reserves for increasing the profitability of production in intercooperative economic associations, all the more so because most of them -- in a proportion of almost 80 percent -- are specialized in various zootechnological branches, whose increase in profitability involves a special degree of difficulty.

Nevertheless, in 1978, the intercooperative economic associations distributed to the associated agricultural production cooperatives a profit of almost 12 million lei, with each associated cooperative averaging profits of more than 65,000 lei. This proves the superior ability of intercooperative associations to make better use of the production resources, on whose basis they are able to ensure their own economic expansion (by the profits allocated to the association's fund for development) and the distribution of greater profits to associated cooperatives, in light of their input into the commonly-owned fund. During one year alone -- 1978 -- the commonly-owned fund, based on local funds, of intercooperative economic associations went up by about 730 million lei, inclusively based on the profit obtained.

All this justifies the acceleration of the process which involves the association between socialist agricultural units for the purpose of increasing profitability -- the basis of the economic development from local resources in each socialist agricultural unit, in conformance with the principles of self-direction and self-management.

11710
CSO: 2700

END

END OF FICHE

DATE FILMED

10 JULY '80

MAK